

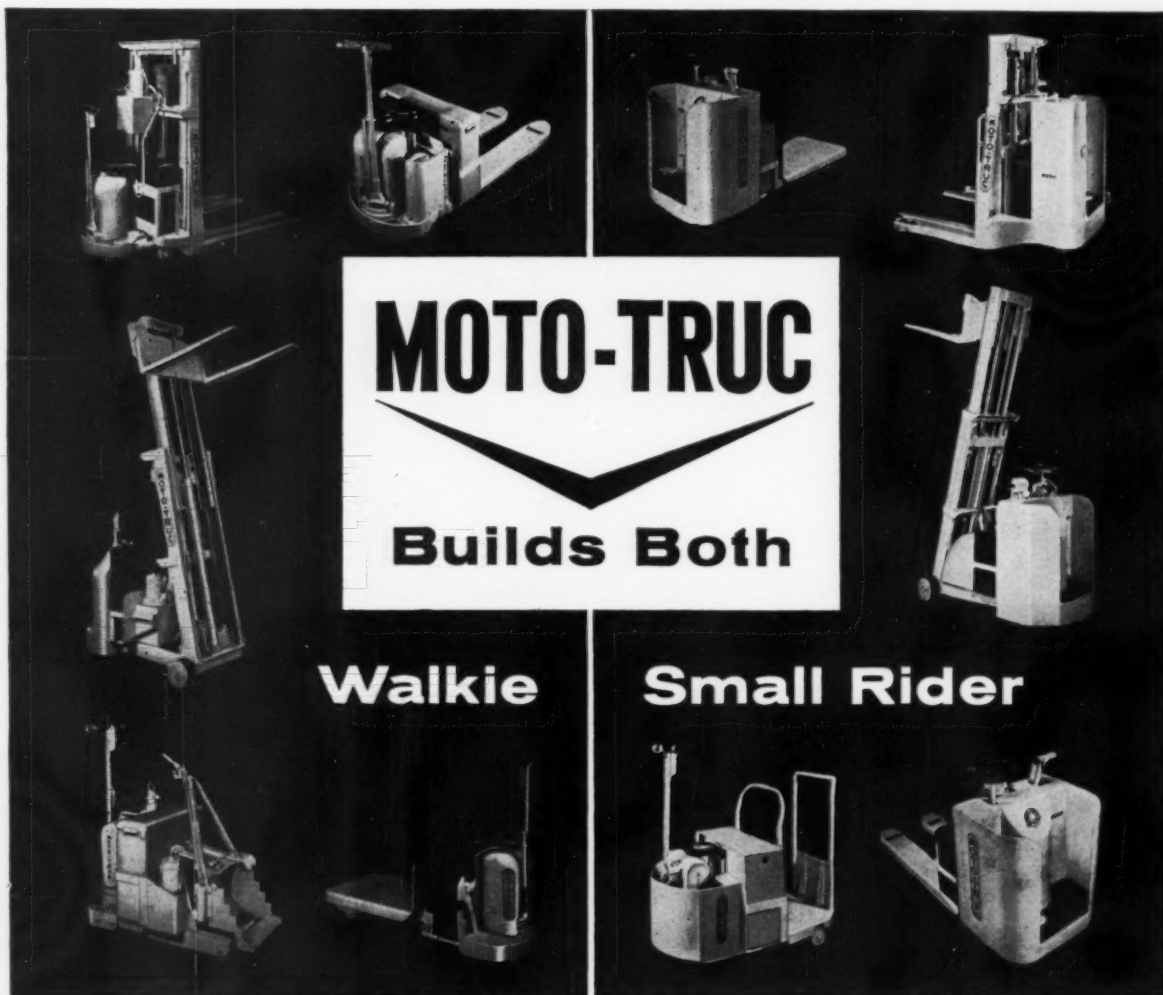
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SEPTEMBER 1960



**A Systems Approach to Transportation—(See Page 33)**



# MOTO-TRUC



## Builds Both

### Walkie

### Small Rider

Moto-Truc builds industry's most complete line of rugged, dependable walkie and small rider type industrial trucks.

Noted for their rugged simplicity and engineering excellence, Moto-Trucs actually cost less to buy than other competitive models. And, it's a fact—backed up by on-the-job cost records—that Moto-Trucs cost far less to operate and maintain too!

To cut handling costs with a minimum capital investment be sure you investigate the complete line of Moto-Trucs,

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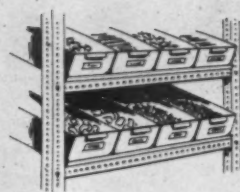
56R—Describes Moto-Truc small rider Models

56W — Gives full details on Moto-Truc walkies



**The MOTO-TRUC co.**

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CLEVELAND, OHIO



### **ECONOMICAL SPARE PARTS—another MOTO-TRUC exclusive**

Moto-Trucs seldom need repairs but when they do you can count on fast delivery of low cost spare parts.

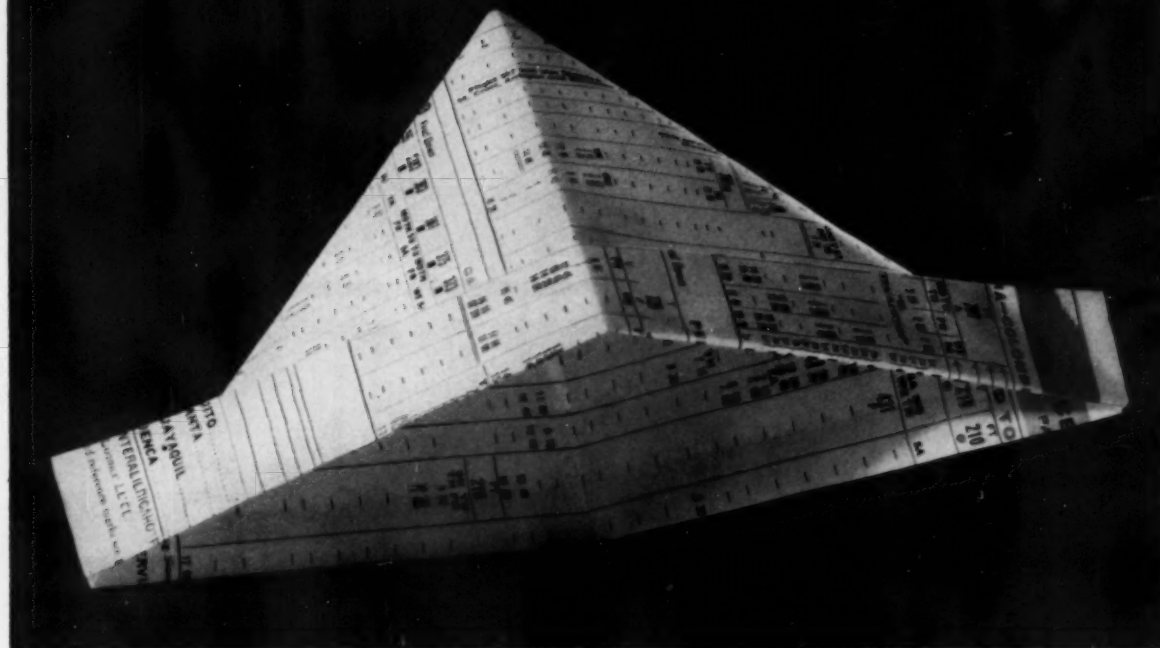
A handful of parts can keep your Moto-Truc in top operating condition for months or even years at a time. And, when repairs are needed you can make them quickly and easily because Moto-Trucs are easy to service.

Repair parts for Moto-Truc walkie and small rider models are a real bargain—compare prices and see for yourself!

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# Now every other cargo schedule is old hat!



*Pan Am tops 'em all with more speed, more space, more savings—world-wide*

You're operating with a head start when you ship by Pan Am Clipper\* Cargo.

*Speed?* Look at these, for example:

Caracas from New York .....	now 4¼ hrs.
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Honolulu from San Francisco ..	now 4¾ hrs.
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Pan Am offers more Jet flights than any other overseas air carrier. Suddenly almost every major market in the world is within 12 hours of the U.S. A.

For space, Pan Am now gives you a whole fleet of giant new DC-7F's—all-cargo Clipper Merchantmen—carrying as much as 15 tons of cargo. Taking aboard bigger, bulkier products than were ever possible

before. Getting there faster than any other all-cargo planes now flying.

And as for savings . . . in addition to offering traditionally low rates to Latin America, Pan Am has just slashed transatlantic rates as much as 45%, cut transpacific rates up to a whopping 53%!

*No wonder Pan Am carries nearly twice as much international air cargo as any other carrier!* Take advantage of it in your company. Call your cargo agent, freight forwarder or Pan Am office. Get your product aboard *today—abroad tomorrow!*

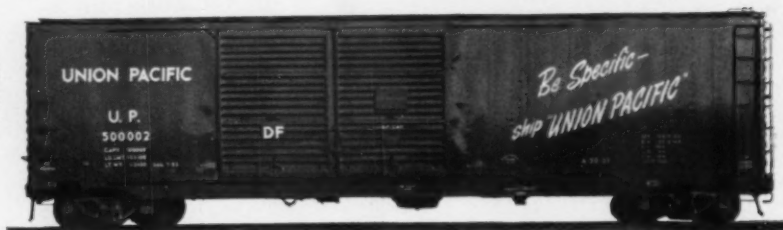


\*Trade Mark, Reg. U.S. Pat. Off.

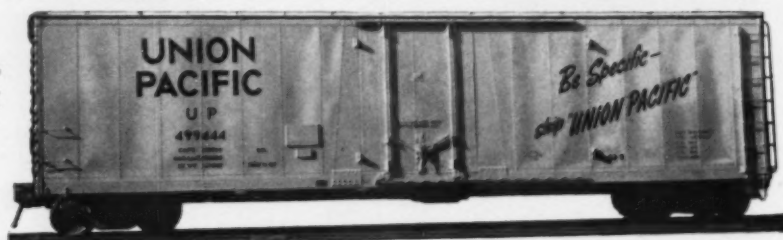
# 3

## THREE TYPES OF SELF-CONTAINED DUNNAGE CARS

This **Standard 50'** Box Car is equipped with belt rails, locking crossbars, and deck boards.



An **insulated 50'** Box Car, equipped with belt rails, locking crossbars, and deck boards.



Providing as many as **3 compartments**, this **insulated 50'** Box Car is equipped with load dividers.

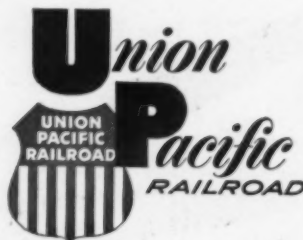


and another type is soon to come ...

**Watch for it!**



*This is further evidence of our continuing effort to provide you high quality freight service in the West on ...*



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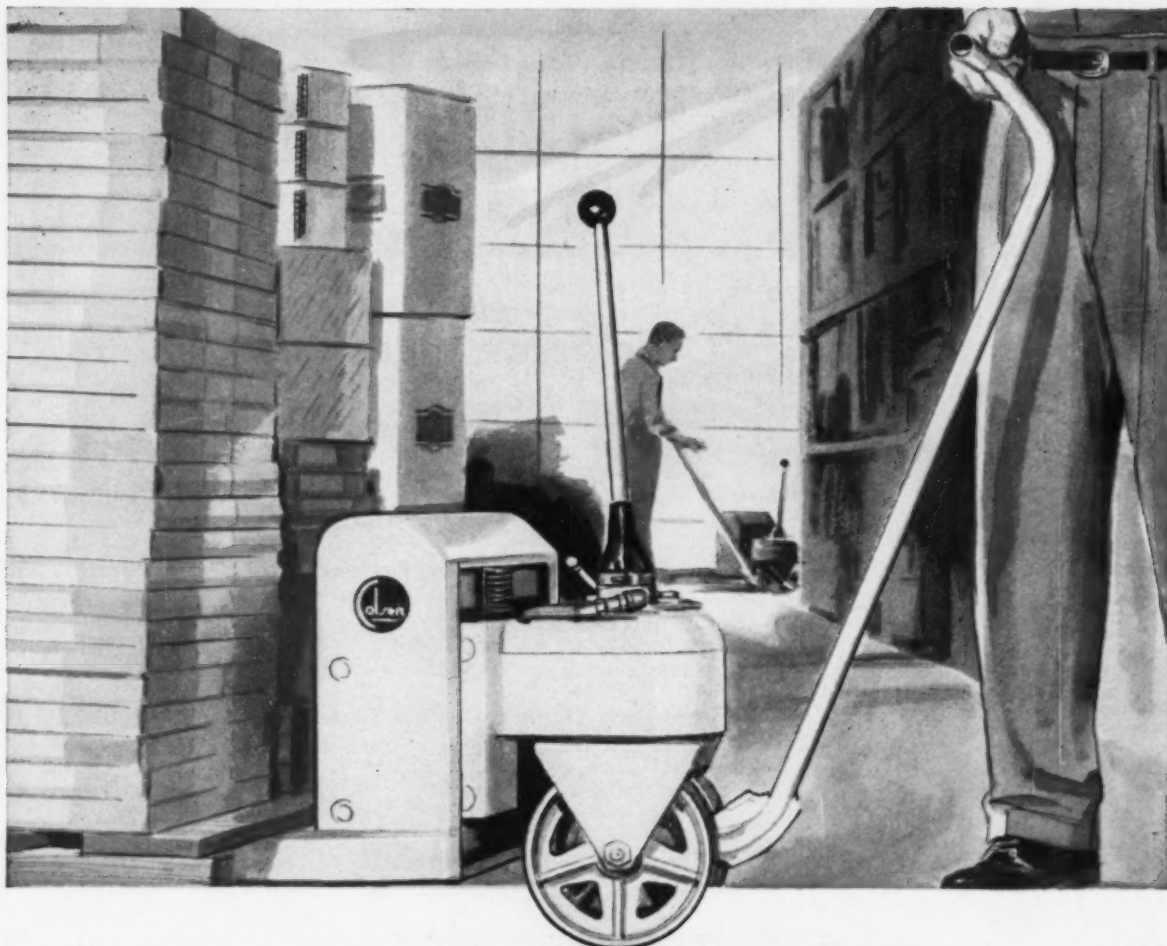
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# from the ground UP builds it better...

Colson starts with the first essential...mobility, and begins building quality there with Colson wheels and casters. Seventy-five years of experience go into putting together the *total* unit. Literally from the ground up, Colson builds it better, supplying the complete product. From Casters to completion, each part of Colson's pallet trucks is made with the careful precision that has made Colson famous for long-lasting quality. Quality costs less. Buy once, buy the best... Colson.



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Contact. This CXI "fifth wheel" moves in to pick up a shipment. Shortly this unit will be fully loaded and will be ready to start its journey (about 1,200 miles). When you need fast, dependable service between the East and West, be sure to hitch up to Chicago Express, one of America's fastest growing Class 1 Carriers.

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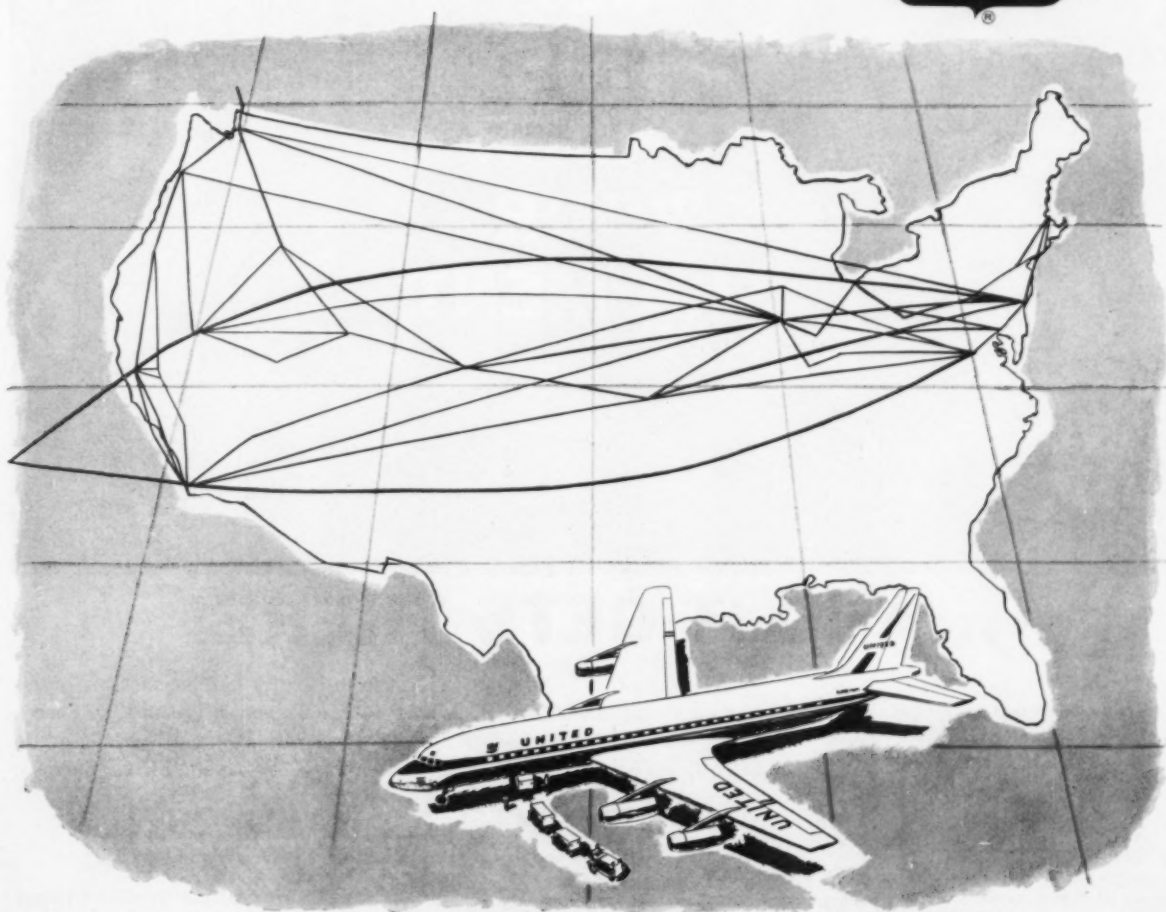
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able on a fleet of fast Cargoliners and all United Mainliners, including 600-mph jets. You have a wide selection of schedules and a choice of door-to-door or airport-to-airport service. Call your local United Air Lines Sales Office or write to United Air Lines, Cargo Sales Division, 36 S. Wabash Avenue, Chicago 3, Illinois.



# CHUTING THE NEWS

## TTMA Finds Truck Trailer Most Efficient Container; Standard Landing Gear Needed

Members of the Truck-Trailer Manufacturers Association, Inc., at their summer meeting took a look at container standardization.

Delegates spoke favorably of standards. However, they agreed that the most efficient container is the conventional truck trailer. The cost-saving feature of containers for overseas shipment were readily conceded. Their ability to solve railroad clearance problems was also admitted.

However, for highway operations, it was stated, they hold an advantage only when they can be integrated into the assembly line, thus cutting handling costs.

The trailer manufacturers supported the ASA van container standard. Lengths would be 10, 20, 30, and 40 ft with a width and a height of 8 ft.

During the engineering session, progress was reported on standardization of trailer landing gears. The goal is to do away with landing gear differences so that all gears will be compatible with all makes of trailers.

Discussion of trailer door hardware led to a recommendation that trailers have interior release mechanisms for the doors. This was prompted by consideration of a California requirement of escape hatches on refrigerated trailers.

## No Containerization Probe

The ICC isn't going to investigate freight tariffs which permit net weight charges on certain types of containerized freight and provide for free container return. The Fibre Box Association had requested such a probe. However, the Commission denied the petition because such a decision is a matter to be determined on examination of all facts in each case.



*Sales of material handling equipment in 1960 are expected to run 6-8 per cent below the high level of 1959, according to the Business and Defense Services Administration, U. S. Department of Commerce. Orders placed in the first 4 months of 1960 were about 6.5 per cent below a year ago, but some 13 per cent more than the comparable period of 1958.*

## Ship's Part by Air



One of the heaviest pieces of cargo ever flown across the Pacific is this giant crankshaft. It weighs 11½ tons. Made in Germany, the crankshaft was shipped across the Atlantic by ship and across the continent by a Pan American Clipper

## Railroads Attack Decision For Longer Period of Credit

Railroads in the Official Territory are protesting the ICC's decision liberalizing credit on carload shipments.

The Commission granted the railroads authority to extend credit for the payment of freight charges for 96 and 120 hours.

The railroads, in asking reconsideration, claim that their working cash in the Official Territory could be cut by as much as \$22 million through longer credit.

The National Industrial Traffic League is lining up against the railroads. It says that the companies are not forced to adopt the credit periods.

## TAA Asks U.S. to Set Conduct Standards for Agency Hearings

The Transportation Association of America is supporting a move for standards of conduct for hearings of U. S. regulatory groups.

Harold F. Hammond, executive vice president of the association, stated the case in a letter to Sen. John A. Carroll. Carroll is chairman of the Subcommittee on Administrative Practice and Procedure of the Senate Judiciary Committee. Under study by this subcommittee is a bill to establish such standards.

Hammond said that if the public is to have confidence in the commission form of regulation, these standards are needed.

"The time is ripe," he said, "for legislation which will eliminate the eroding influence of ex parte pressure and representation."

(Please Turn Page)



# Chuting the News . . .

(Continued from Preceding Page)

## C of C Transport Committee Announces Meeting Plans

The Transportation and Communication Committee of the U. S. Chamber of Commerce has announced plans for its Sept. 7-8 meeting. The meeting will be held at the Old Club, Detroit.

Among the matters to be discussed will be the federal aid highway program, local-service airline subsidies, a review of the National Transportation Policy, and government competition with public carriers.

Walter F. Carey, president of Automobile Carriers, Inc., is the chairman. The group will meet again on Nov. 27-28 and on Feb. 7-8.

—DA—

## Ten Transportation Experts To Pick Top TM of 1960

Ten of the country's traffic and transportation leaders have been named to the Second Annual Traffic Manager Award Committee.

The announcement was made by James D. Edgett, president of North American Van Lines, Inc., sponsor of the award. Committee members are: Daniel W. C. Becker, director, School of Traffic and Transportation, LaSalle Extension University; John L. Burge, vice president of Interstate Motor Freight System; Richard C. Colton, vice president of Lykes Bros.; Peter Cornwall, cargo sales manager, Pan American World Airways System; Gayton E. Germane, director for transportation policy, Department of Defense; James Kerr, traffic manager, Container Transport International, Inc.; K. Paul Thorpe, general traffic manager, Superior Fast Freight; Charles Trayford, president, Charles Trayford Associates; Tru-sten P. Wadsworth, assistant director of pricing, Western Pacific Railroad; and E. P. Walsh, vice president, States Marine-Isthmian Agency, Inc.

## New MHI Conference Leader

Charles C. Bassett has been named co-chairman of the Technical Conference to be held during the Material Handling Institute Central States Show. Both events will be held at the Kentucky Fair and Exposition Center, Louisville, Nov. 1-3. Bassett is plant engineer for the Belknap Hardware and Manufacturing Co., Louisville.

—DA—

## McMorris Elected Chairman Of Interchange Committee

Donn McMorris, of Denver-Chicago Trucking Co., Inc., is the new chairman of the National Motor Equipment Interchange Committee.

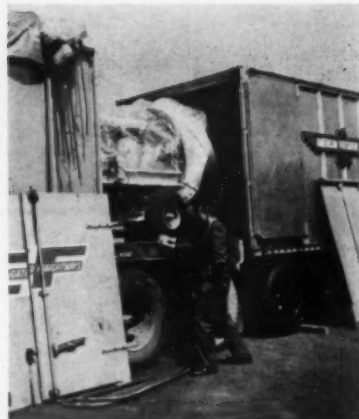
During the same Milwaukee meeting at which McMorris was elected, C. J. McCormick, of Indianapolis and Southern Motor Express, Inc., was elected vice chairman. P. H. Johansen, of Central Motor Lines, Inc., is the new treasurer. Secretary K. R. Hauck, of Washington, D. C., was re-elected.

George Briggs, retiring chairman, was elected honorary chairman for life.

## New Freight Terminal



A piggy-back ramp is one of the features built into the new Western Carloading terminal at Los Angeles. Recently dedicated, the terminal complex can unload 99 freight cars at one time on its three house tracks. Up to 300 trucks can be simultaneously loaded at its doors. A piggy-back unloading ramp unloads piggy-back trailers, boxcars, and loading trucks at one time



## NDTA Convention Oct. 2-5

The National Defense Transportation Association is completing arrangements for its National Convention. To run from Oct. 2 to 5, the meetings will be held in New Orleans. Registrations for sessions can be made through W. M. Reid, NDTA, 1201 Pere Marquette Bl., New Orleans 12, La.

—DA—

*The ICC has prepared a study on "Value of Service in Rate-Making." It views the value of transportation service in a broad sense to include the general aspects of what the service is worth to the shipper as well as the problem of the amount by which charges may exceed the cost of service.*

—DA—

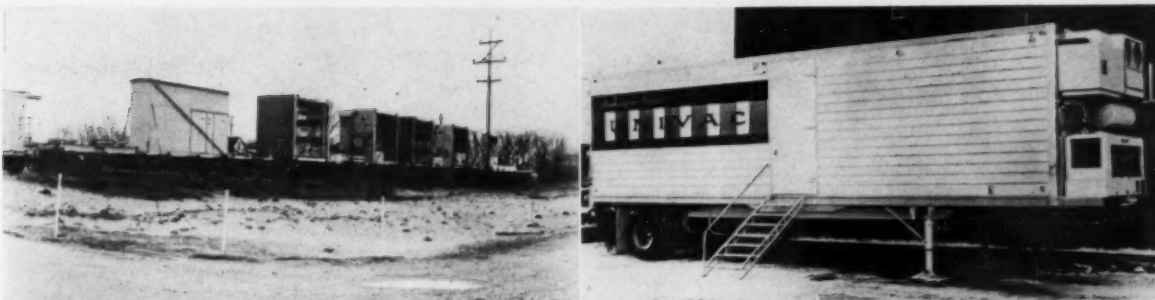
## Packaging Institute Plans For 22nd National Forum

Program details for the 22nd Annual National Packaging Forum have been announced by the Packaging Institute.

Meetings will be held in the Statler-Hilton Hotel, New York. The dates will be Oct. 31 and Nov. 1-2. A feature of the program will be the Awards Dinner on Nov. 1.

Information and registration details are available from Charles A. Feld, executive director, 342 Madison Ave., New York 17, N. Y.





**DELICATE SHIPMENTS HANDLED WITH CARE**—Far Left: A motor carrier and a steamship line teamed up to move a jet engine from Minnesota to Japan. The spare part was moved by American President Lines and Consolidated Freightways. Above Left: Shipment of world's largest prefabricated sectional environmental test chamber moves over rails from Michigan plant of Conrad, Inc., custom builders for the aircraft-missile industry. Above Right: Six specially-built Dorsey aluminum vans like this are used by Sperry Rand Co. to transport the fragile components for highly-sensitive computers

### News Briefs

First prize of the Clark Equipment Company's 1960 materials handling essay contest was won by T. B. Keene, Jr., materials handling engineer at Douglas Aircraft Co.

The Erie and St. Lawrence Containerships ordered 110 special chassis to carry cargo-containers. The order has been placed with Highway Trailer Co.

Ground-breaking ceremonies for the \$7 million executive headquarters of United Air Lines were held recently at Chicago. Construction of the company's \$2 million employee training center also was begun.

Batteries of huge 15-ft loudspeakers have just been developed by the Ling-Altec Electronics, Inc. The speakers will be used in warning ships as far as five miles out to sea.

The Soo Line has inaugurated a direct piggy-back service between Chicago, Minneapolis - St. Paul and Minot, N. D.

The opening of the third new terminal in a twelve month period, with the completion of a new half-million dollar structure in Little Rock, will be held by the East Texas Motor Freight. The other terminals were in Shreveport and San Antonio.

Cushman Motors, a subsidiary of Outboard Marine Corp., has a new plan available for acquiring its gasoline and electric-powered trucksters and golfsters on a lease basis.

The Mack Trucks, Inc. will build a modern plant at Hagerstown, Md. Completion is scheduled for October 1961. It is to replace its outdated plainfield facilities. The new factory will be a multi-million-dollar, one-story, plant with about one-million square feet of manufacturing area.

The first of an order of 25 new mechanically refrigerated vans for its expanding Flexi-Van fleet has just been received by the Milwaukee Road. Twelve insulated vans already in Milwaukee Road Flexi-Van service are being converted into refrigerated vans.

### Club Briefs

The Dayton Area Chapter 159 of Delta Nu Alpha Transportation Fraternity installed officers at its annual dinner meeting at DeWitt Village Restaurant in Dayton recently. William J. Hechler, Frigidaire Div., GMC, president; George C. Janicki, Delco Products Div., GMC, first vice president; Hugh C. Bunn, Standard Register Co., second vice president; William E. Schneider, CCC Highway, Inc., secretary; and Robert E. Dinges, Jet Express, Inc., treasurer.

The Traffic Club of Denver held its annual picnic at Pine Tree Park, recently. A ball game was held between the commercial and railroad men.

—DA—

*Preliminary toll traffic statistics by the St. Lawrence Seaway for the months April, May, and June reveal a substantial increase in tonnage over the same period for 1959, an increase of 1,138,241 tons.*

### Demountable Trailer Flatbed



This 33-ft demountable trailer flatbed is one of 100 used by Detroit Atlantic Navigation Corp. for fishy-back service. The new service operates between Detroit and Cleveland. The Highway Trailer platform pallet is 91 in. wide with square front and steel bulkhead. The service covers truck-load and less-than-truck load shipments

### President Signs Highway Bill Making New Funds Available

President Eisenhower recently signed the Federal-Aid Highway Act of 1960. The measure provides funds for construction on the federal-aid highway systems and public domain roads.

The bill included \$1,850,000,000 for the federal aid program. An additional \$239,500,000 is for public domain roads.

—DA—

### Truck-Air Cargo System Set-Up

A worldwide truck-air cargo system is in operation by Pan American World Airways and Consolidated Freightways. The system links Consolidated's terminals with Pan American's Clipper Cargo flights to 79 countries. The arrangement makes direct shipments with single documentation procedure to and from interior cities possible.

—DA—

### N. Y. Port Men Help Youth Work

Terence J. Gilsenan is the newly-elected chairman of the Maritime Associates of the George Junior Republic. The associates number more than 50 leaders of New York Harbor's marine enterprises. The George Junior Republic is a school for the correction of adolescent problems. Chairman Gilsenan is traffic director of General Motors Overseas Operations Division.

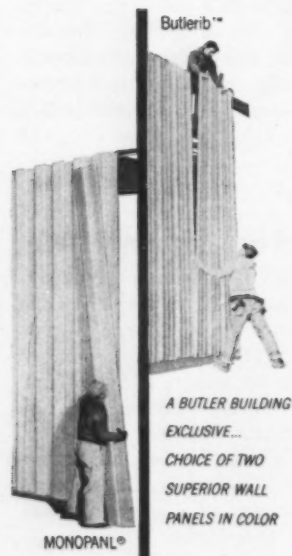
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A BUTLER BUILDING EXCLUSIVE...CHOICE OF TWO SUPERIOR WALL PANELS IN COLOR



## You can make it, store it or sell it inside an *economical* Butler Building



A modern Butler building fills many needs. There's space enough to stack your building materials high. Space enough to permit easy movement of equipment and merchandise. *Wide open space* that allows you to plan *efficiently* for an office, salesroom or loading dock . . . or for a complete manufacturing plant, if that's your business.

But the true beauty of Butler's clear-span construction lies in its *economy*. For, around a supporting skeleton of Butler pre-engineered steel structurals and metal roof panels, you need only to build with economical, attractive curtain wall systems, instead of bulky, expensive load-bearing walls. You get more pay-space per dollar.

And talk about a customer-winning

outside appearance. Only with Butler pre-engineered buildings can you choose from two superior wall panels—in a wide selection of durable, factory-applied colors! Butlerib™, the standard roof and wall panel, offers exceptional strength and bold beauty. And striking new Monopan® is *factory-insulated* to create the complete exterior wall—both inside and out—in one easy installation.

Incombustible Butler metal buildings often lower insurance rates, and are easy and economical to maintain and expand. For full details, contact your nearby Butler Builder. He's listed in the Yellow Pages under "Buildings" or "Steel Buildings." Ask him about financing, too. Or write direct.

### BUTLER MANUFACTURING COMPANY

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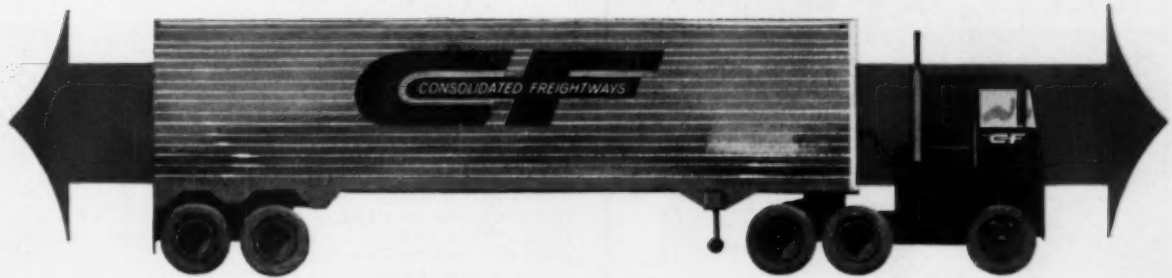


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# CONSOLIDATED FREIGHTWAYS NOW SERVES COAST TO COAST



**Motor Cargo and Liberty Motor Freight Lines** are now a part of the Consolidated Freightways system. These carriers operate between the Atlantic seaboard and the Middle West, joining the CF system at Chicago, Indianapolis, Milwaukee and Minneapolis-St. Paul.

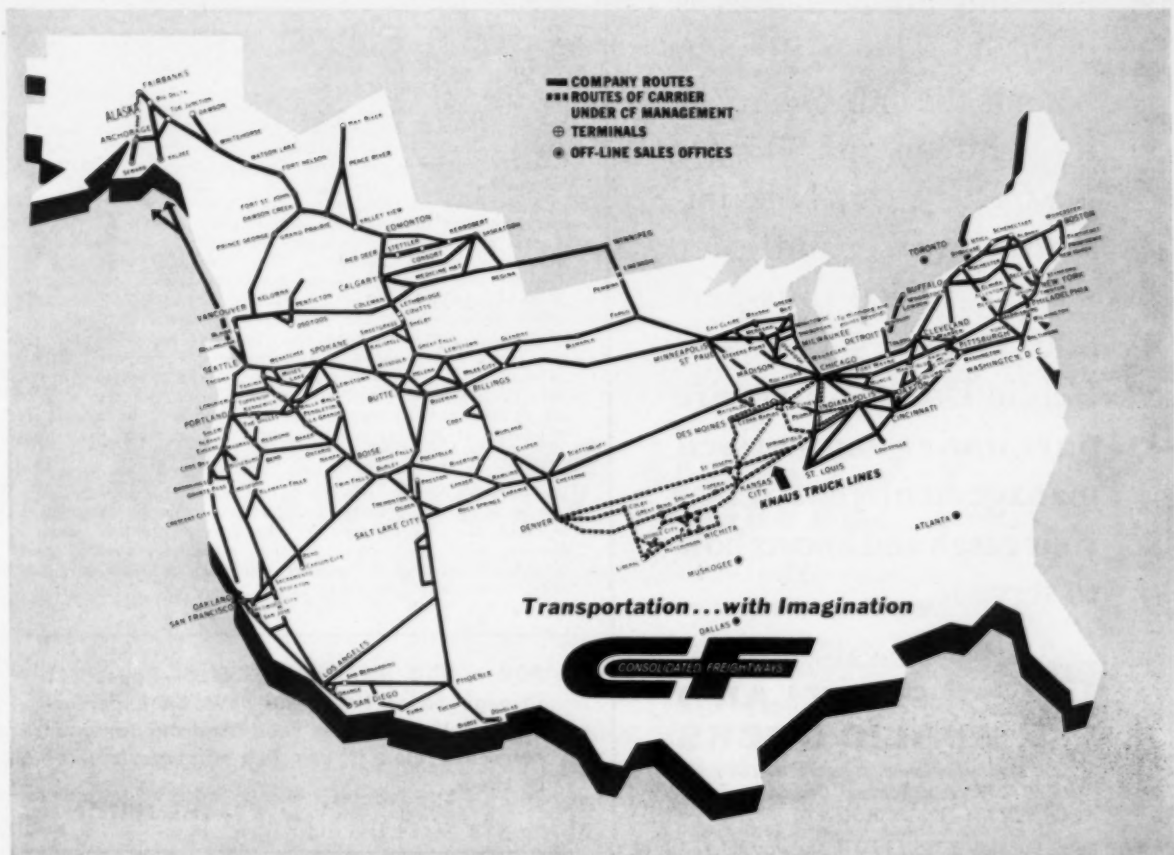
As units of the CF system they are now able to offer shippers the most extensive single-line freight service available, particularly to the western United States and Canada. And, of course, CF customers can enjoy comparable single-line service to the east.

This is major league coverage. In fact, the CF sys-

tem now serves all 15 major league cities! And CF Daysaver service saves time, saves handling.

For dependable, courteous attention to *your* shipments, call your CF system terminal. Until telephone directory changes can be made, look for Motor Cargo or Liberty Motor Freight Lines in eastern cities.

**EXCLUSIVE WITH CF**—a special office equipped to furnish any type of rate and routing information not available locally. Write, wire, or phone Consolidated Freightways Information Center, Box 32, Chicago 50, Illinois. TWX Bellwood 172. Telephone: AUstin 7-7003





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## Something's happening...

...and it's raising eyebrows all up and down the Pacific Coast. Why? Because Portland Public Docks is building what will soon become the only facility of its kind on the Pacific Coast...a giant bulk unloading tower and pier (capacity 900 tons-per-hour). That's Portland Public Docks, a livewire port under centralized management that wants your cargo and knows how to serve it.

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# LETTERS TO THE EDITOR

## Advice on Export Shipments

To The Editor:

The president and vice president in charge of sales for our company have gone to South America to determine the market potential of our products in those countries. When they return, by the end of next month, they will call a meeting of the principal department heads.

We had a meeting of department heads right before they left. We were told of their objectives. We were also told, "We've developed our contacts, we expect to come back with orders. Your job will be to fill those orders and make certain that they are properly delivered."

"You will have nine weeks to plan for raw materials and increase production which might call for a 10 to 20 per cent increase in volume." Up to now, we've not handled any export business. Can you steer us in the right general direction?

Name Withheld

We are glad to hear that your company is going to get a share of the great volume of export business available. If business tapers off in the middle of 1961, as economists expect, your export sales could keep your plant going for some time.

We are publishing your letter with the thought that our reply might be of interest to others. Tomorrow, or next year, they may be faced with similar problems. Don't worry about handling your end efficiently. Lots of expert help is available, merely for the asking.

Our first suggestion is to review all the "Export Primer" articles by Dr. Roland L. Kramer (March, June, July, August, September, and November of 1959). More will be published in the future, so watch for them.

Next, you will find much useful data in the October 1959 issue of DA. It contains, for example, a directory of ports and their facilities. The ports have traffic managers who can be of great help by providing information about transportation schedules, forwarders, and other services.

Depending on the size of the export orders, you may want to ship in bulk to a distribution center in the port areas. This will help you cut costs. Public warehousemen can be of great assistance. Each issue of DA contains listings and advertisements outlining services available. A more complete list will be found in the February 1960 issue, as well as in the October 1959 issue.

Another good source of help is your regional office of the U. S. Department of Commerce. Its Foreign Service Department publishes all kinds of information about foreign commerce: industries, people, currencies, and so on. It even could arrange for your company to exhibit its products at special government trade centers and combined U. S. exhibits at the big international trade fairs.

The Export-Import Bank provides services with which you should become familiar. The most recent service is a system of insurance to protect your export transactions against the cancellation of the foreign buyers import license, war and insurrections, nonconvertibility, and nontransferability of national currency into dollars, and other hazards.—The Editor.

**FOR YOUR REFERENCE FILE—Pages 41 through 56 of this issue have been perforated so that you can tear them out for your reference file. If you like this service, let us know.**

—THE EDITOR



# NEED A TRUCK FAST ?

for peak delivery periods . . . for emergencies



## ***RENT IT FROM HERTZ !***

When you need a truck—and need it fast—call Hertz! Hertz is America's largest, most experienced truck rental company. That means you get Chevrolet, GMC and other sturdy trucks *when* you want them—and the *way* you want them! Van, stake, panel, pickup, or walk-in—whatever your need, you can rent it from Hertz! Tractors and trailers for long or local hauls are also

quickly available from Hertz in many cities. All you need is a proper driver's license and identification. Hertz low rates include insurance and gas and oil (even if bought on the road.) And you can rent Hertz trucks for any length of time: by the hour, day or week—as long as you wish! Hertz also offers long-term no investment, no upkeep truck leasing for economical year-round operation.



# C AND Outstandability



## Chessie's electronic railroad gives you fast, sure service

From its trainferry east-west short cut across Lake Michigan to its front door to world commerce at Newport News, Virginia—and everywhere on Chessie's 5,100-mile system—the magic of electronics provides big shipper-benefits. C&O's practical application of electronic railroading saves time and money, speeds delivery and communications.

Radar guides C&O trainferries across Lake Michigan and its tugboats at Newport News, on Hampton Roads. Radar even works at C&O's push-button classification yards, where sorting, weighing, retarding, are all done automatically with radar and other electronic devices. On the main line it inspects moving cars and warns of hotboxes before they happen.

High on the list of Chessie's electronic wizardry is Univac—the large scale computer system which provides information as fresh as this morning's sunrise for use by management in planning C&O's future growth. Prompt, accurate car reporting by CLIC, Car Location Information Center, is another electronic advantage shippers get when they specify C&O routing.



### Chesapeake and Ohio Railway

TERMINAL TOWER, CLEVELAND 1, OHIO

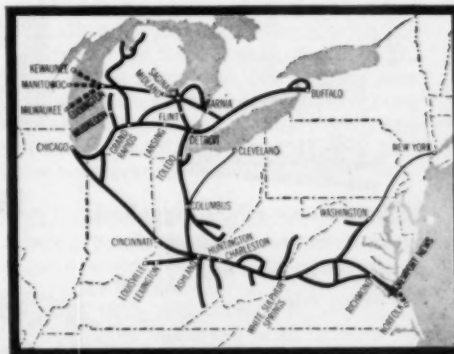
*Outstandability in Transportation*



CLIC, C&O's system-wide network of electronic tape and teletype, furnishes a dependable report on your car; finds "empties" and special equipment for better utilization and service.



C&O's "hotbox detective" has an infra-red eye that can detect the slightest rise in the temperature of a bearing on a speeding train. Prompt reporting then prevents serious delays.





**UPGRADING**

## IS A HABIT WITH SEABOARD

These carpenters are railroad men, too — part of the Seaboard organization which works "behind the scenes" to offer you thoroughly modern freight transportation to and from the Seaboard Southeast.

Upgrading, to us, means not only the refurbishment of equipment to accommodate today's varied freight requirements, but the adoption of every practical development for bettering all phases of Seaboard freight facilities with each passing year.

*Transportation is our business*, and we want *your business* — your steady, repeat business. Upgrading our plant while retaining our reputation for friendly, personalized service is the best way we know of to insure your continued confidence.



Seaboard now offers Piggyback facilities between principal points on its line and Northern cities.

# SEABOARD

AIR LINE  
RAILROAD



**THE ROUTE OF COURTEOUS SERVICE**





# WASHINGTON

# DA

By Neil R. Regeimbal, *Chilton-Washington News Bureau*

**POLITICOS BACK TRANSPORT** — Both political parties are promising continued strong support of the nation's transportation system. But the methods vary. Republican convention platform emphasizes free competition among various modes and a minimum of government regulation. It pledges: "Continued improvement of our vital transportation network, carrying forward rapidly the vast Eisenhower-Nixon national highway program and promoting safe, efficient competitive and integrated transport by air, road, rail and water under equitable, impartial and minimal regulation directed to those ends." The Democrat platform contends that "Over the past seven years we have watched the steady weakening of the nation's transportation system," adding that "railroads are in distress, highways are congested, airports and airways lag far behind the needs of the jet age." Then it promises: "We will establish a national transportation policy, designed to co-ordinate and modernize our facilities for transportation by road, rail, water and air."

**NEW TRANSPORT REPORT DUE** — The Senate Commerce Committee's transportation study group plans to submit its report in mid-January. The study, headed by Gen. John P. Doyle as staff director, was formed about a year ago. Currently, various advisory groups have been meeting once a week with the staff. Meetings so far have been behind closed doors, but spokesmen expect the Committee to hold hearings after the report is made. Advisory groups are composed of carrier officials and shippers.

**DRIVER REGISTER SET** — Drivers convicted of traffic violations resulting in the suspension of their licenses will be listed in a national register next year. A new law creates the list in the U. S. Commerce Department. The register would list names of drivers who lose their licenses either for drunk driving or upon conviction of a traffic violation resulting in a fatality. Government officials say it will be a useful device in attaining state-wide reciprocity in enforcing traffic laws.

**PUSH COMMON OWNERSHIP**—Railroads are expected to step up their drive for passage by Congress next year of "common ownership" bills in the wake of the U. S. Supreme Court's decision in the Pacific Motor Trucking Co. Case. In the case, the high court prohibited the ICC from issuing unrestricted certificates to trucking subsidiaries of railroads unless "valid special circumstances" are proven. It reversed a lower court and the ICC. The case was sent back to the Commission to decide if some special circumstances in the case do warrant the unrestricted grant.

**AID DISLOCATED FIRMS** — Small firms dislocated by the new federal-state highway building program or by urban renewal programs will get special help from the Small Business Administration. SBA will give "immediate priority" to loan applications from firms suffering from this.

**ALTER TAX PRACTICES** — An accrual method taxpayer contesting an increase in the per diem charge for railroad freight car rentals can't deduct the amount in dispute from income taxes until the controversy is resolved. Internal Revenue Service in a new ruling (Rev. Rul. 60-237) says that expenses can't be accrued until actually paid, thus can't be deducted until they are a cash expense. In another ruling (Rev. Rul. 60-241), IRS says that a maker of taxable motor vehicles and parts, such as tank trailers and automobile truck bodies, which are sold at cost to a subsidiary, is liable to a tax based on the cost plus 10 per cent to cover "normal markup."

**ELECTION TO CHANGE U. S.**—A changed America will emerge from next January's Presidential inauguration. A new Administration with new policies and new attitudes will have a deep impact on all business. Changes will be sharper if Kennedy and the Democrats take over the White House as well as the Congress. But Nixon and a new GOP Administration will also depart from courses charted by President Eisenhower. One result of the bitter election battle may be increases in government spending and revenue-raising tax increases (instead of hoped-for tax cuts).

**PROPOSE 'SLOWDOWN' LIGHT**—All vehicles would have to be equipped with automatic slow-down signaling devices under legislation introduced in Congress by Rep. Joseph W. Barr, D., Ind. The Congressman complains few drivers now signal by hand when they slow down. His measure would require all cars to have a flashing red light on the rear of the car, activated when driver's foot is taken off the accelerator.

**'MODEL' SMOG LAW**—A model anti-smog program is being proposed for the nation's capital by local government officials. The engineering commissioner of the capital city proposes that all vehicles beginning with 1962 models registered in Washington, D. C., be equipped with a blow-by device to reburn crankcase gases. He also wants a three-minute motor idling limit for vehicles not in the stream of traffic (except for below-freezing warmup), and to forbid operation of vehicles with smoke or fume output from the exhaust visible for more than one-tenth of a mile.

(Please Turn to Page 73)

EVERY DAY'S A GOOD DAY AT

**SPECTOR**

THE LIFE'S WONDERFUL LINE

# CUSTOMERIZED

## FREIGHT TRANSPORTATION SERVICE

Between the  
key markets  
of America

### One Call...to 30,000 Markets

One pick-up to scores of destinations (including direct service to most of the nation's top markets) means really big savings in time and dollars...

- 1 Only one pick-up truck — cuts congestion and loading time at your outbound dock.
- 2 Only one delivery truck — cuts congestion and unloading time at your receiving dock.
- 3 Only one rating, tracing, claim and sales contact with people who can act fast, make decisions.
- 4 Only one accounts payable (instead of many) to administer.

Your customers, distributors, branches, suppliers, too, get the benefits of one local delivery, one contact—instead of several—on the receiving end. Spector's comprehensive service makes your "All-In-One-Basket" routing over our system most worthy of your consideration.

**COMPREHENSIVE AUTHORITY**—one of 16 *Customerized* services described in the new Spector Story Brochure. It's yours for the asking.

**SPECTOR FREIGHT SYSTEM, INC.**, General Offices: 3100 S. Wolcott Ave., Chicago 8, Ill.

ROCKFORD

CHICAGO

ALBANY

DETROIT

CHESHIRE

peoria

SPRINGFIELD (ILL.)

bloomington

JACKSON

MILWAUKEE BRIDGEPORT

AURORA

TOLEDO

JOLIET

CAMDEN

MENDOTA KANSAS CITY

PROVIDENCE

LANSING TOPEKA

ST. LOUIS

WILBRAHAM

WASHINGTON

CLEVELAND

PHILADELPHIA

NEW BRITAIN

rochester newark

MINNEAPOLIS

FT. WAYNE

INDIANAPOLIS

AN ORIGINAL SPECTRA BY JOHN SOLAZ DESIGNED EXPRESS FOR SPECTRA FREIGHT SYSTEM, INC.



WICHITA

WALTHAM BUFFALO

LINDDALE

BRANCHVILLE

worcester

YORK

BOSTON

bend

south PARKVILLE FOXON

SAGINAW

port huron

SPRINGFIELD (MASS.)

BALTIMORE

TENNALLYTOWN

# Men in the News

## Traffic—

D. B. Voorhees—new manager of the foreign Division, of Esso's Traffic Department; P. F. Hawkins—manager of an Expanded Operations Division in the Supply Department.

J. A. Mosser—appointed general traffic manager, Fisher Body Div., General Motors Corp.

C. Donald Steinwedel—named manager warehouse operations, the Carpenter Steel Co., Reading, Pa.

## Transportation—Highway

William E. Patterson—appointed acting manager, Local Cartage National Conference of American Trucking Assns.

R. L. Rickenbacher—transportation methods engineer for Ringsby Truck Lines and vice president and general manager Interstate Express Systems, elected president American Material Handling Society, Denver Chapter.

Hilliard Ridgely—named Cheyenne, Wyo. terminal manager for Ringsby Truck Lines, Inc.

Reginald Armour—elected president and a director, Dorsey Corp., Elba, Ala.

N. Robert Elliott—joins Branch Motor Express Co. as district sales manager in the Philadelphia and Delaware Valley areas. His office will be in Pennsauken, N. J.

William Roulinavage—appointed general traffic manager NY-NB Express Co., Edison, N. J.

William G. White—elected president, Consolidated Freightways, Inc., Menlo Park, Calif.; Charles R. Christensen—vice president. He will direct labor relations, head Alaskan and Canadian operations.

T. R. Tribolet—appointed director of communications, Pacific Inter-mountain Express, Oakland, Calif.; E. O. Kristjanson—loss and damage prevention supervisor; A. V. Slater—Idaho Falls branch manager.

Sam Dickerson—named manager of the Southern California Division, Foreign Freight Department, Watson Brothers Transportation Co., Inc., Omaha, Neb.

Curtis N. Christy—elected vice president, Highway Trailer Industries, Inc.

## —Rail

W. Bradley Gilkey—promoted to

newly-created position of supervisor of marketing services for the U. S., Sparton Corp., Jackson, Mich.; Kenneth E. Martin—central region manager, Chicago.

James J. Ross—appointed superintendent, Washington Division, Railway Express Agency; Ronald J. Evans—superintendent, Indiana-Central Illinois Division; Joseph J. Donovan—superintendent, Ohio Division, Edward W. Brown—superintendent, Intermountain Division; and Eugene E. Myers—superintendent, Cleveland Division.

## —Water

Joseph F. Deane—elected president, The Great Lakes Ship Owners Association; John H. Eisenhart, Jr.—vice president and general counsel—Board of trustees.

H. C. Hix—elected president, Houston Port Bureau; N. B. Avenell—first vice president; J. J. Dee—second vice president; Merle R. Crockard—secretary.

Peter Schaufler—sworn to new post of deputy director of commerce for the Port of Philadelphia.

Ted D. Johnston—appointed manager of port operations, San Francisco Port Authority.

Robert W. Cary—elected president, Council of Lake Erie Ports. He is vice president of Toledo Marine Terminals, Inc.

## Materials Handling

Gordon Patterson—elected president and director, Yale and Towne Manufacturing Co., New York.

Herbert T. Florence—elected president and general manager, The Cleveland Crane and Engineering Co., Wickliffe, Ohio; William J. Ryan—vice president and assistant general manager.

James H. W. Conklin—appointed general sales manager, Stanley Steel Strapping, New Britain, Conn.

G. H. Pfeifer—named director of product merchandising—public relations, Chain Belt Co., Milwaukee.

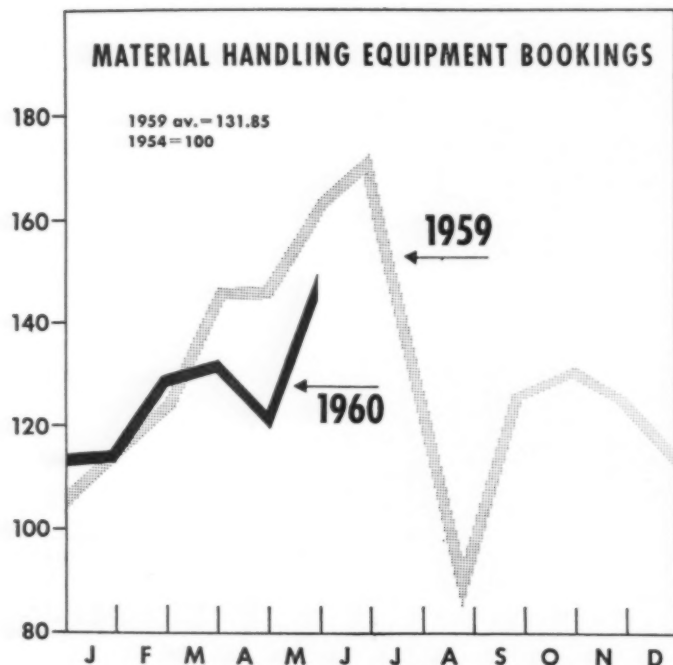
Thomas R. Hart—appointed training manager, Industrial Truck Division, Clark Equipment Co.

William Rundquist—new vice president—sales, Standard Conveyor Co., St. Paul, Minn.; D. G. Tregilgas—sales promotion manager; Herbert Olson—sales promotion manager; Ralph Gunderson—manufacturing vice president.

Edward S. Evans, Jr.—receives honorary Doctor of Humanities degree from Hillsdale College. He is president of Evans Products Co., Plymouth, Mich.

## Packaging

Rexford L. Morris—elected president, Columbian Rope Co., Auburn, N. Y.





# B.F. Goodrich industrial tires cut downtime, save money all around steel and wire company

Delivering cold drawn steel wire coils to the nail mill—hauling fire brick to giant ladles in the open hearth pit—towing wire cars into a storage warehouse—unloading fence posts in the inventory yard—loading freight cars with Red Brand fence—all around Keystone Steel and Wire Co. materials are moved faster and easier on B.F. Goodrich industrial tires.

Downtime and tire costs are cut to a minimum, because each piece of equipment rolls on the B.F. Goodrich tires specifically designed for the job. The B.F. Goodrich Tire and Wheel Analysis Man studied the company's setup—floors, loads, equipment, etc. Then he advised which B.F. Goodrich

industrial tires would give longest service at lowest cost—advice that was unbiased because B.F. Goodrich makes a complete line of industrial tires and can recommend the right tire for any job. As a result of this TW Analysis, Keystone Steel chose B.F. Goodrich tires for *all* its vehicles.

This case history is typical of the savings B.F. Goodrich Tire and Wheel Analysis Men are offering industrial tire users all over the country. Why not take advantage of this *free* B.F. Goodrich service. Mail the coupon below today.

A special B.F. Goodrich consulting service is available to manufacturers of materials handling equipment.

**Specify B.F. Goodrich tires when ordering new equipment**



"Battlegon" delivers load of wire fence for freight car shipment from Keystone plant at Bartonville, Illinois. B.F. Goodrich Solid industrial tires work round-the-clock on this unit. Scooter whips around plant on B.F. Goodrich Express tires.

**A FREE B.F. Goodrich TW Analysis can save you as much as 50% on industrial tires, as much as 20% on maintenance costs. Mail the coupon now.**



*The B.F. Goodrich Company  
Dept. TW-828, Akron 18, Ohio*

Please send me additional information on your free Tire and Wheel Analysis Plan.

Name \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



Circle No. 4 on Card, Facing Page 57, for more information

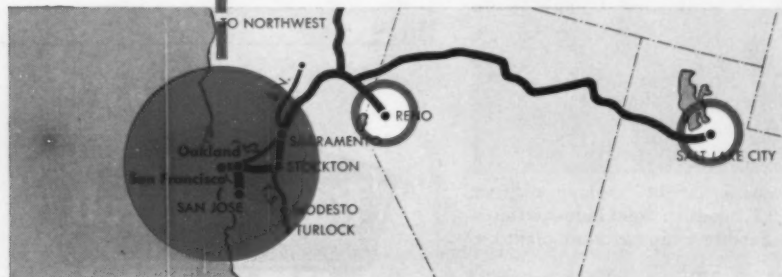


**FOR  
SALE**

**3481 acres of industrial property  
within 93 miles of the Golden Gate!**

California and the Mountain States are growing fast, but Western Pacific still has choice warehousing, distribution and manufacturing sites for sale in the San Francisco Bay Area and in other strategic locations in Northern and Central California. WP also has industrial property at Reno (in the free port State of Nevada) and Salt Lake City, distribution center for the Intermountain West.

Strengthen your competitive position in the West with a centrally located distribution site. For complete, *confidential* information, write Frank B. Stratton, Director, Industrial Development and Real Estate, 526 Mission St., San Francisco 5, Calif.

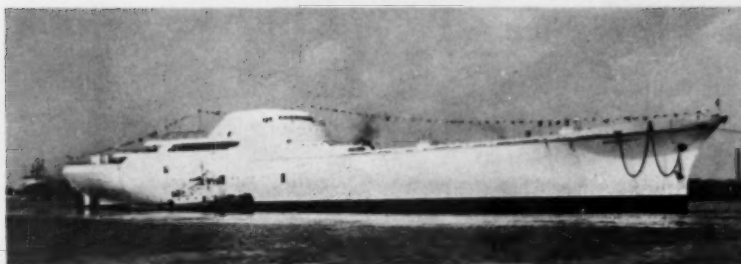


**WESTERN  
PACIFIC**

*Route of Fast Freights and the  
Vista-Dome California Zephyr*

**DISTRIBUTION AGE**

## Not a Sleek White Yacht



Don't mistake this cargo ship for a pleasure yacht. It's the N.S. Savannah, first merchant ship with atomic power in the world. She will make her sea trials this year complete with an air conditioning system. The system uses a flexible tubing of high carbon spring steel wire helix covered with overlapping piles of nylon fabric coated with synthetic rubber. Flexible Tubing Corp. made the tubing, helped cut installation costs

## Chuting the news . . .

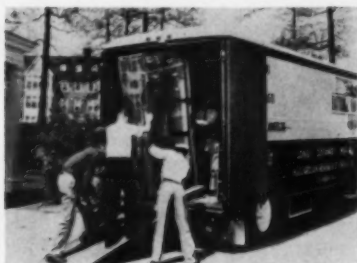
(Continued from Page 9)

### Forwarder Assn. Elects First Slate of Officers

The National Freight Forwarder Association, Inc., has elected its first slate of officers.

Elected to one year terms, they are: J. Chambers, of Clipper Carloading Co., Chicago, president; R. C. Harmonson, of Superior Fast Freight, Los Angeles, vice president; W. F. Snodgrass, of Texas Shippers Association, Dallas, vice president; Frank Lucas, of Pacific and Atlantic Shippers, Chicago, treasurer; and Leonard Stelzer, of Clipper Carloading Co., secretary.

### Videotape Unit Moved



When station WSB-TV in Atlanta bought a \$50,000 videotape unit, Atlas Van Lines brought it to the station door. The unit records tv programs on magnetic tape and weighs a hefty 2500 lb. The move began at RCA's Camden, N. J., plant

### Nominations Open for Award For Transportation Leader

Nominations are now open for the 1960 Seley Award of the Transportation Association of America.

The award will be made to the person performing the most distinguished service to transportation between Oct. 1, 1959, and the present. The award consists of a gold medal to the individual, a \$1000 transportation scholarship to the college of his choice, and an additional gift of \$1000 to the college.

Names must be submitted to the committee by Sept. 30. They are to be sent to Chairman Donald G. Ward, Transportation Association of America, 1710 H St., N. W., Washington 6, D. C.

—DA—

### ATA Freight Claims Council Names Executive Secretary

Reginald C. G. Witt, of Arlington, Va., has been named executive secretary of the National Freight Claims Council of the American Trucking Associations, Inc. The announcement was made by R. G. Atherton, ATA general manager.

He also will serve as chief of the ATA Freight Claim Section. Since April, 1959, he has served as acting executive secretary of the council and acting chief of the section.

(Resume Reading on Page 12)

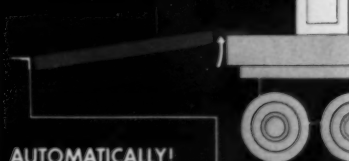
## Dock Operating Efficiency Begins With KELLEY ADJUST-A-LIP DOCKBOARDS

You save labor, time and operating costs with Adjust-A-Lip Dockboards — and eliminate the safety hazards of loose dock plates. Installation is permanent... its performance automatic.

Adjust-A-Lip retracts behind dock bumpers thus preventing damage to end loads, truck bodies. Now carriers can be spotted day or night... with no chance to activate dock board and damage overhead doors. The Adjust-A-Lip raises or lowers automatically to truck bed level and remains at dock level when not in use (for safe cross traffic).

Investigate how the Adjust-A-Lip can speed dock operations in your plant. Mail coupon today!

LIP ADJUSTS OUT...



AUTOMATICALLY!

LIP ADJUSTS IN...



AUTOMATICALLY!

DOCKBOARD ADJUSTS UP AND DOWN...



AUTOMATICALLY!

**FREE** Get the FACTS! Send for details TODAY!

☐ FREE KIT — "How to Plan a Profitable Truck Dock Operation." Get Booklets on Dock Safety, Modernizing, Leveling Data, Dock Designs, etc.

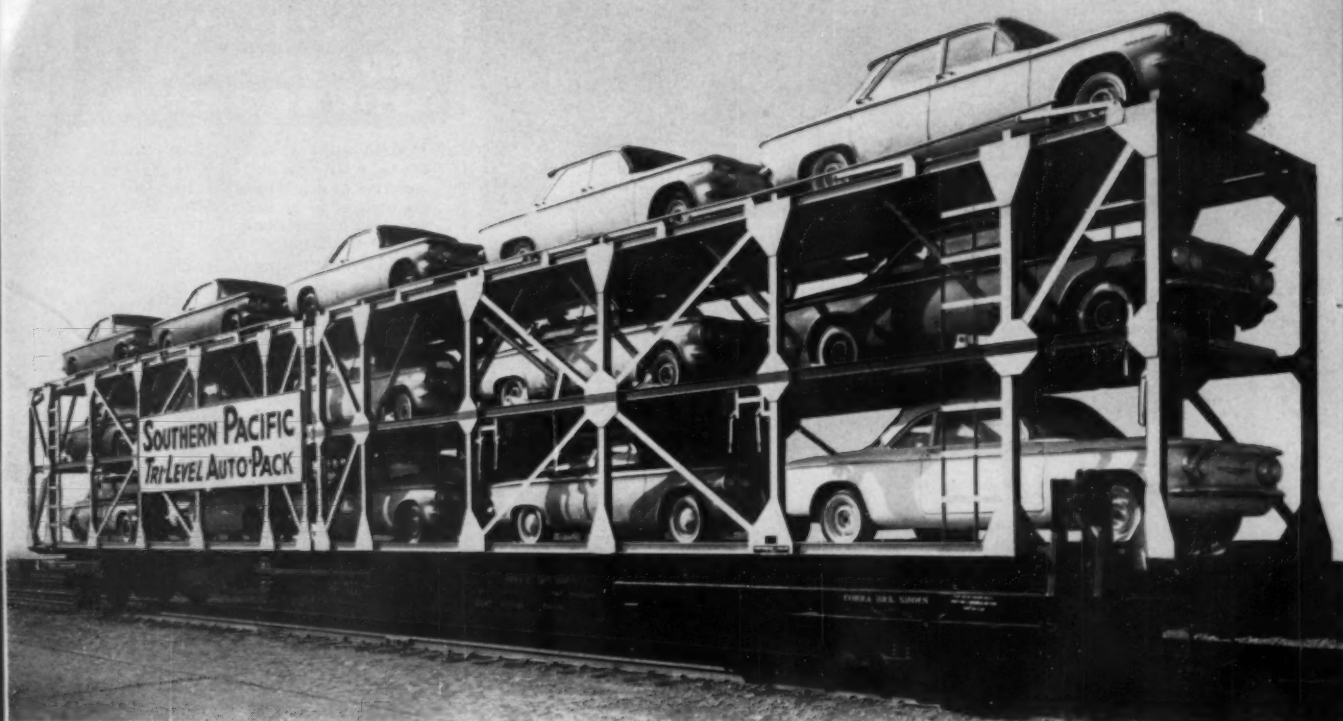
☐ FREE SURVEY — No obligation.

Tear out and attach this coupon to your letterhead. Sign your name and mail to:

**HI-LO KELLEY COMPANY INC.**  
2157 W. MILL ROAD  
MILWAUKEE 9, WISCONSIN

Circle No. 5 on Card, Facing Page 57



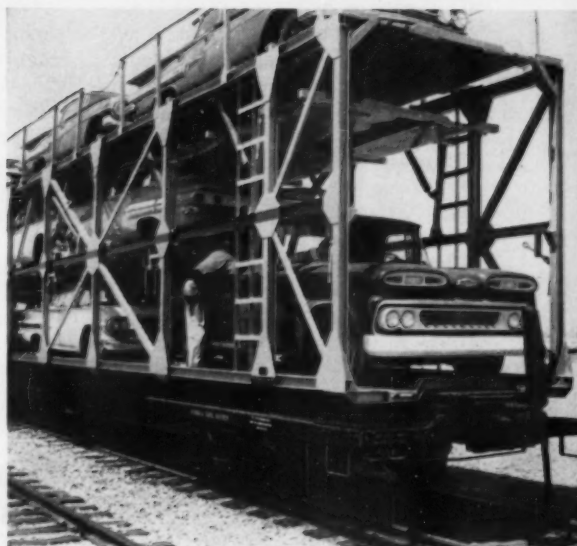


## NOW "F.O.B." MEANS "FIFTEEN ON BOARD"

That's the three-deck total of compact autos snugly secured for shipment aboard this new S.P. Tri-Level Auto-Pack.

This is the most flexible rail car built today for carrying automobiles and trucks. Its three 84-ft.-long floors can accommodate 15 compact or 12 standard passenger cars...and a unique S.P. design feature permits raising the Auto-Pack's second floor *by sections* to make room for combined loads of automobiles and trucks.

The new Tri-Level Auto-Pack is an example of Southern Pacific's close cooperation with both shippers and rail car builders to provide new equipment for efficient, modern transportation.



*Adjustable second-floor sections make room for combination loads of trucks and autos.*



# Southern Pacific

serving the West and Southwest with  
TRAINS • TRUCKS • PIGGYBACK • PIPELINES





## SUPER-VAN SERVICE: dawn of a new era in freight transportation

The New York Central has introduced a new concept in fast freight. Super-Van Service!

Super-Van trains carry only shipping containers such as Flexi-Van, which can travel by rail, highway or water. Equipped with passenger train type roller bearings, these trains of gleaming metal boxes clip off miles at spectacular speeds on the rails.

Suddenly you find major markets miraculously closer. For example, freight leaving Chicago at midnight arrives in New York that same evening. Then, still in containers, it's delivered right to your doorstep before business starts the next morning.

Super-Van Service is just one of many exciting

innovations being made by the Central to provide faster, more reliable service for its customers. You'll find bold new concepts of transportation start on the New York Central.



*ROAD TO THE FUTURE*

# ONLY CARGO SCHEDULE OF ITS KIND... only TWA Super Sky Merchant fleet serves both the U.S.A. and Europe!



Cut out this page and keep it handy! TWA offers you the best of both worlds! *Excellent over-night service between New York, Chicago, California.* Exclusive one-carrier service between 70 U. S. cities and 23 world trading centers with TWA Super Sky Merchants...and giant TWA SuperJets. Dependable world-wide service no other airline can match. And each plane has such tremendous cargo capacity, almost *anything* goes TWA Air Freight... frequently at less cost than by surface transportation.

## TWA U. S. A. ALL-CARGO SCHEDULE

READ DOWN DAILY EXCEPT SAT. AND SUN. READ UP

599 1049H	595 1049H	FLIGHT NUMBER EQUIPMENT	598 1049H	592 1049H
11:00 ↓ 1:24 2:30 ↓ 7:15	11:25 12:32 1:35 ↓ 3:14 4:15 ↓ 5:22 6:25 ↓ 6:36 7:40 ↓ 12:51	Lv (EDT) NEW YORK (INT'L) . . . . Ar Ar (EDT) PHILADELPHIA . . . . . Lv Lv (EDT) PHILADELPHIA . . . . . Ar Ar (EDT) PITTSBURGH . . . . . Lv Lv (EDT) PITTSBURGH . . . . . Ar Ar (EST) COLUMBUS . . . . . Lv Lv (EST) COLUMBUS . . . . . Ar Ar (CDT) CHICAGO (MIDWAY) . . . . Lv Lv (CDT) CHICAGO (MIDWAY) . . . . Ar Ar (CDT) INDIANAPOLIS . . . . . Lv Lv (CDT) INDIANAPOLIS . . . . . Ar Ar (CDT) ST. LOUIS . . . . . Lv Lv (CDT) ST. LOUIS . . . . . Ar Ar (CST) KANSAS CITY . . . . . Lv Lv (CST) KANSAS CITY . . . . . Ar Ar (PDT) LOS ANGELES . . . . . Lv Lv (PDT) LOS ANGELES . . . . . Ar Ar (PDT) SAN FRANCISCO . . . . . Lv	11:42 ↑ 7:50 6:48 ↑ 10:30	12:18 ↑ 10:40 9:57 ↑ 6:45 5:47 ↑ 3:40 2:41 ↑ 8:00

DARK TYPE (11:00) INDICATES P.M. — LIGHT TYPE (11:00) INDICATES A.M.

## TWA INTERNATIONAL ALL-CARGO SCHEDULE

EASTBOUND		TUE.	THUR.	SAT.
		980 1049H	980 1049H	970 1049H
NEW YORK INTERNATIONAL AIRPORT	Lv	01 30	01 30	01 30
GANDER	Ar	↑07 25	↑07 25	↑07 25
	Lv	08 10	08 10	08 10
SHANNON	Ar	↑18 40	↑18 40	↑18 40
	Lv	19 25	19 25	19 25
FRANKFURT	Ar	↓	↓	Sat. 22 30
	Lv	Tues. 21 50	Thurs. 21 50	Sun. 00 30
PARIS	Ar	00 15	00 15	↓
	Lv	Wed. 01 35	Fri. 02 30	01 35
ZURICH*	Ar	↓	↓	02 30
	Lv	02 30	02 30	↓
GENEVA*	Ar	01 35	01 35	↓
	Lv	02 30	02 30	↓
ROME	Ar	04 35	04 35	04 35

WESTBOUND		TUE.	WED.	SAT.
		971 1049H	981 1049H	981 1049H
ROME*	Lv	14 30	16 30	14 30
MILAN*	Ar	16 10	18 10	16 10
	Lv	17 40	19 40	17 40
ZURICH*	Ar	18 45	↓	18 45
	Lv	20 00	↓	20 00
GENEVA*	Ar	↓	20 50	20 50
	Lv	↓	21 50	21 50
PARIS	Ar	↓	Wed. 23 10	Sat. 23 10
	Lv	↓	00 40	00 40
FRANKFURT	Ar	21 05	Thurs. ↓	Sun. ↓
	Lv	22 30	↓	↓
SHANNON	Ar	Wed. ↑02 00	↑03 15	↑03 15
	Lv	02 45	04 00	04 00
GANDER	Ar	↑07 35	↑08 50	↑08 50
	Lv	08 15	09 30	09 30
NEW YORK INTERNATIONAL AIRPORT	Ar	11 40	12 55	12 55

† Flag stop only.

\* No local, stop-over or connecting traffic permitted between Milan and Rome. No local traffic is permitted between Zurich and Geneva.

† Flag stop only.

★ No local, stop-over or connecting traffic permitted between Milan and Rome. No local traffic is permitted between Zurich and Geneva.

Call your freight forwarder or nearest  
TWA Air Freight office—today

FASTEST COAST-TO-COAST

# TWA

THE SUPERJET AIRLINE\*

\*TWA THE SUPERJET AIRLINE is a service mark owned exclusively by Trans World Airlines, Inc.

DISTRIBUTION AGE

# On the Line—



## Poor Housekeeping

Some months ago we planned to inspect a private warehouse. We took a cab to the site. Upon arrival we saw with some shock that our visit had to be postponed. During the night the warehouse burned almost to the ground.

A chemical unit of the local fire company still was working over the ruins. We tried to learn the cause of the fire. No one knew.

Upon return to our office, we wrote to our would-be host. Among other remarks, we asked what caused the fire. His reply, in due time, blamed the fire on smoking.

Last night, returning from another business trip, we met a man who knew about this fire.

He was a member of an insurance firm that carried part of the fire protection policies. His office received a report on the fire.

"Your friend is right that smoking caused the fire," he said. "But it was poor plant housekeeping that really destroyed that warehouse.

"The place was littered from one end to the other almost every time any of our men dropped in. When it was cleaned, the rubbish was swept out along the rail siding or truck docks. About once a month—or when the piles got too big—they would hire some one to haul it away.

"At no time was all the safety equipment in perfect working order. The plant watchman was not very dependable.

"At the time that the fire started, there were several broken windows that fed the flames a good supply of air.

"These are but a few of the things I remember about this case. I do recall, also, that we've often considered rejecting handling this account. At best, it was a poor risk.

"The fault was the warehouse manager's. We carried the same protection on the company's two factories and three other branch warehouses. All except this were good risks."

This is the inside story of a warehouse that started with a good design and layout but became a liability because of poor management.

We don't know if that manager, our would-be host, still is with that company. If the insur-

ance people gave his management the same story we got, chances are that he is unemployed or has a less responsible job elsewhere. We wonder, too, if that warehouse will be rebuilt and if the other employees have found jobs.

## Change The Scenery

Several times this summer we tried to get in touch with folks only to find that they were away on vacation. This is normal for the season, of course. But, when we did catch up with them, we learned that one had a month's vacation and two received three weeks.

There seems to be a trend toward longer vacations among top management people. This is good. It should be encouraged.

A proper vacation—one with a complete change of environment and a complete change of activities—offers many benefits. It can be a period of mental and physical recuperation. For those who must travel for weeks at a time, it can be a period of rebuilding family amity and affection.

For junior executives, a vacation can be a period of greater job experience. To take over some of the boss' duties brings about a reassessment of values and requirements to handle the top job successfully.

For the corporation, an executive's new vigor gained from a good vacation can pay big dividends. A rested and relaxed man can do a better job of administration and leadership. When all is well upon his return, a good executive gains a feeling of confidence that he has been successful in building a staff that can function effectively during his absence.

But too many top executives still do not take a real vacation. Long week ends, a week, or a day now and then is not a vacation. Under the tensions and pressure of today's business operation, it takes at least a week to unwind taut nerves. To come right back into harness does not give those nerves time to rest. And rest is the object of a vacation.

The best rest is that obtained from a change of scenery—not from a change of tranquilizers.

*Art Greene*  
EDITOR



# "Cut warehousing and boost distribution?.. Delta Air Freight does the impossible!"



Armour Pharmaceutical Company eliminates warehouses by airlifting area shipments to regional centers where pre-labeled and postage-paid packages are speeded to individual customers.

"Drug shipments need expensive refrigerated warehousing and special handling as a rule," comments W. F. Sheehy, Transportation Manager. "We eliminate this requirement by using Delta Air Freight and serve our customers *faster and better* than ever. A 9-state shipment, for example, can be flown to Atlanta where individual packages, already pre-labeled and stamped, fan out to our customers in a fraction of the former time."

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# Yakkety Yak

By Ye Editor



The boss asked his assistant if he enjoyed his vacation.

"I sure did. I went to the mountains. All I did was sleep and rest."

"Oh? Then all you really had was a change of scenery."

**NEW DECOR**—A live-wire owner of a mountain resort inn received this letter:

"We won't spend our vacation at your inn this year. We want a complete change of scenery."

... The innkeeper replied: "Our scenery is completely different from last year. Each leaf on every tree has been replaced. Every blade of grass is new. The flowers are new."

"The skies above change the size, shape and number of clouds every minute. Can any other resort change its scenery any more than that?"

**QUOTES**—From American Motors' press conference on its break with forced obsolescence and the annual product redesign rat race:

"Attempts to forcibly outdate products that are meant to have a long and useful life, by changing them capriciously every year, are being questioned by the consumer with increased intensity."

"The attempt annually to create products camouflaged to seem better is a colossal misdirection of effort away from useful innovation."

—George Romney,  
President

... "Pressure (of yearly model change) calls forth greater effort and sparks greater achievement. But the pressure that produces better goods is that from other creative minds—not competition from the calendar."

"Competition with the calendar simply siphons off creative energy and everybody ends up producing trivia with consoling consistency, while important benefits are unnecessarily delayed."

—B. A. Chapman, Exec. VP

DISTRIBUTION AGE





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In the whole world, only the new Exide-Ironclad TG Super gives you so much battery power for so little. Packs 11% more power with no increase in size. That means your present trucks can do more work every shift. And this more powerful battery actually costs you less per amp-hr. Same long Exide-Ironclad life potential for low annual cost. Search all you want. You'll discover, as most others have, that the Exide-Ironclad is truly the lowest-cost battery you can find. Write for our new bulletin. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 20, Pa.



**New Exide battery for small industrial trucks and personnel carriers.** Model 3-KCS-9. Features new-design tubular positive plate. Up to 30% more capacity than automobile batteries. Up to four times their average life. Fits same compartment. Write for new bulletin.

# Exide®

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## Coming Events

Sept. 12-14—Joint Industry Fall Meetings of The Material Handling Institute, Inc., Industrial Truck Assn., Monorail Mfrs. Assn., Rack Mfrs. Institute, The Cavalier Club, Virginia Beach, Va.  
Sept. 12-15—National Truck Leasing System, 16th Annual Meeting, Sheraton Towers Hotel, Chicago.  
Sept. 12-16—Fifth Annual Midwest Course on Plant Layout and Facilities Planning, sponsored by Kansas City Center, The University of Kansas, Town House Hotel, Kansas City, Kans.  
Sept. 13—The Southern Traffic League, Inc., Annual Meeting, Mobile, Ala.  
Sept. 15—The American Society of Traffic and Transportation, Statler-Hilton Hotel, Cleveland, Ohio.  
Sept. 15-17—Southeastern Warehousemen and Movers Assn., Annual Meeting, Barringer Hotel, Charlotte, N. C.  
Sept. 18-21—Associated Traffic Club of America, Annual Meeting, Dinkler Plaza Hotel, Atlanta, Ga.  
Sept. 17—Delta Nu Alpha, Regional Convention of Eastern Region No. 2, Lancaster, Pa.  
Sept. 22-23—The National Small Shipments Traffic Conference, Inc., Annual Meeting, Chicago, Ill.  
Sept. 27-29—Cargo Handling Exposition and Symposium, by New York Chapter, Merchant Marine Academy Alumni Assn., Inc., Pier 1, New York, N. Y.  
Oct. 2-5—National Defense Transportation Assn., National Convention, Roosevelt Hotel, New Orleans, La.  
Oct. 7-9—Delta Nu Alpha Transportation Fraternity, 20th Annual National Meeting, Hotel Roanoke, Roanoke, Va.

Oct. 11-13—National Assn. Shippers Advisory Boards, Pick Niccollet Hotel, Minneapolis, Minn.  
Oct. 12-27—10th Pan American Railway Congress, Rio de Janeiro, Sao Paulo, Brasilia, Brazil.  
Oct. 23-26—National Frozen Food Merchandising Convention and Exposition, Statler Hilton, New York, N. Y.  
Nov. 1-3—The MHI Central States Show, The Kentucky Fair and Exposition Center, Louisville, Ky.  
Nov. 7—National Assn. of Freight Transportation Consultants, Annual Meeting, Chicago, Ill.  
Nov. 17-18—National Industrial Traffic League, Annual Meeting, Commodore Hotel, New York, N. Y.  
Nov. 20-23—National Defense Transportation Assn., Annual Meeting, Hotel Roosevelt, New Orleans, La.

—DA—

### Shippers Advisory Boards

Sept. 7-8—Pacific Coast, San Francisco, Calif.  
Sept. 15-16—New England, Pike, N. H.  
Sept. 20-21—Ohio Valley, Columbus, Ohio  
Sept. 20-22—Southwest, San Antonio, Tex.  
Sept. 28-29—Atlantic States, Albany, N. Y.  
Nov. 3-4—Central Western, Salt Lake City, Utah.

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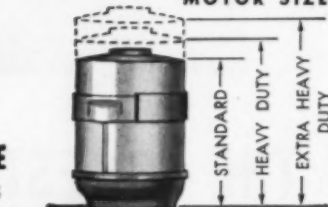
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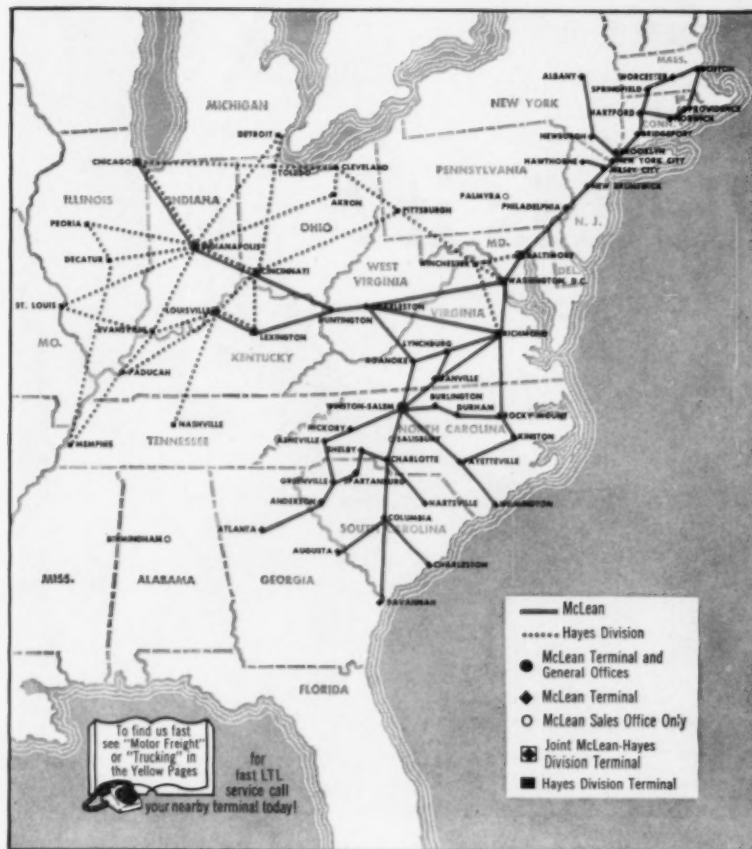
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McLean Trucking Company and its Hayes Freight Lines, Inc. Division can do a better transportation job for your less-than-truckload traffic for four solid reasons:

1. Broad LTL Market Coverage
2. Complete LTL Facilities
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4. Personalized LTL Attention

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SEPTEMBER 1960



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*The railroad of planned progress  
...geared to the nation's future*

CHICAGO 5





**T**HE TRANSPORTATION industry and its methods of operation are in the throes of a major transition.

A far-reaching and fundamental change in the philosophy of transportation management; in the methods of improving services; and in decision making is taking place. The major characteristics of the change may be summed up in one word—systems.

#### Systems Approach

Executives in transportation are embracing the systems approach to transportation's role in company operations and as a solution to distribution problems. The approach interrelates the total complex of transportation and storage activities with other aspects of business operations. Thus it assures company stability, growth, and profits.

This approach, which is now evident in the operation of progressive companies, stresses the interrelationship and coordinacy of all activities in physical distribution. It perceives the transportation function as one segment of the complete system of business action.

The systems approach to transportation management emphasizes the impact of decisions made by this department on every segment of transport, on all physical distribution activities, or other marketing operations, and on the total business system.

Too often traffic managers regard transportation narrowly. Many of them see it as a functional operation existing largely because of and for itself. In this sense, the performance of transportation functions are viewed as major reasons for the existence of a traffic manager.

#### Specialized Activity

From this viewpoint, transportation is considered a specialized operating activity. It falls within the domain of one department af-

## A systems approach to transportation

Executives in the transportation industry are embracing the systems approach to transportation's role in company operations, distribution problems. Here's why

fecting one aspect of the organization. Transportation decisions are made and activities conducted largely in the light of transportation dimensions.

This functionalized approach to transportation has serious negative consequences. Companies adopting it are not likely to maximize their profits because:

- There will exist a lack of planning and action designed to optimize the use of total company resources and to maximize overall profits.
- Numerous independent decisions will be formulated and implemented without recognizing the consequences for other elements of physical distribution and business operations.
- Transportation policies and services will not be designed and adapted to better meet company and customer needs.
- A lack of coordination of space and movement strategy will occur which may generate disfunctioning in the total system of business action.

For example, there is often a lack of integration of decisions concerning the types of carriers, warehouse location, inventory

levels, storing, and packaging problems. Each may have an impact on the other. As a result, the transportation department may work towards achieving its own specific objectives. They may run counter to the major goals of the company. Profits drop.

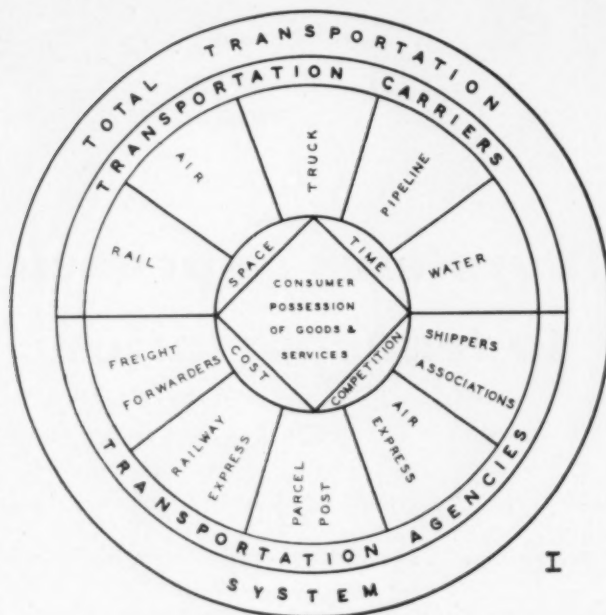
In such cases transportation objectives can be achieved. But relatively high costs result for the firm as a whole. Thereby much of the true meaning and value of transportation management may be lost. In such a situation, the total contributions of the transportation department are not as great as they should be. Total profits realized are less than company action warrants.

To overcome these severe limitations, informed traffic managers are becoming adherents of the systems approach. They are viewing transportation problems in terms of operating wholes.

The systems approach does not defend or favor transportation at the expense of the total organization. By adopting a unified and integrated concept of distribution, decisions may be made which will maximize the total output received

*(Please Turn Page)*

## THE TOTAL TRANSPORTATION SYSTEM



### A systems approach . . .

(Continued from Preceding Page)

from all business inputs. It is this coordinated management approach which will lead to increasing efficiency.

#### Implementation

What are the concrete evidences of the systems approach? Perhaps the most specific evidence is a shift in the organizational title and responsibility of the traffic manager. Several companies have broadened both the "label" and duties to include related activities other than those usually referred to in the field of "traffic."

The position is often referred to by a title such as distribution manager or physical distribution manager. This change recognizes the broader dimensions of responsibility included within the domain of the top transportation executive. It emphasizes the impact of transportation functions on other distribution activities within a company.

The second piece of evidence parallels the organizational evolution of the position of distribu-

tion manager. It is the development of a new concept—physical distribution.<sup>1</sup>

Physical distribution refers to the integration of all aspects of physically handling, storing, and transporting goods on their way to the market. According to this concept, transportation activities in the broadest sense, are regarded as comprising a whole—a system of physical distribution. Management should not think in terms of methods of transportation, warehousing, or handling separately. Management must think in terms of the impact of decisions on each of the other physical distribution segments and on the total company.

#### Integrated Operations

Third, in recent transportation literature more emphasis is being given to the systems method.

<sup>1</sup> For a definitive discussion of the physical distribution, see "Physical Distribution: A New Concept," by Edward W. Smykay and Frank H. Mossman, in "Managerial Marketing Perspectives and Viewpoints," Eugene J. Kelley and William Lazer, Richard D. Irwin, Inc., 1958, p. 360.

Clyde E. Phelps has written in *DISTRIBUTION AGE* that "The warehousing industry today is on the threshold of an entirely new pattern of distribution—distribution center warehousing. Only the beginning phase of a new concept, it encompasses the physical distribution of goods from plant to storage area to point of final consumer market via multi-plant transit stocks.

"This transiting is a system by which the manufacturer can ship a complete order of his entire line of produce at one time, and on one bill of lading on through rates from the producing point . . . to set up such a program, a sound basis of traffic research coordinated with the production and sales pattern is essential."<sup>2</sup>

Referring to airlines specifically, *Business Week*, March 14, 1959, reported that "The Airline's problem in selling air freight is that the lines have to make their pitch on the basis of distribution as a complete integrated system. . . . The moral is simply that approaching distribution as a total process—and not one made up of separate functions—will sometimes shake management out of long established practices."

In the March 1958 issue of *DISTRIBUTION AGE*, "Lift-On-Lift-Off On the Road to Total Transportation," explains that "The day of total transportation may be closer than we think. Basically, total transportation is the integration of two or more modes of carriage to provide the shipper with a unified service."

It is evident that the concepts referred to advance systems thinking in distribution. They describe certain basic trends and practices in current transportation management which adopt an integrated, coordinated, and total approach to the solution of problems of physically distributing goods. The writers are expressing forward-looking and practical ideas of managerial significance to the transportation industry.

#### Lack of Clarity

However, since the observations and writings have been offered by

<sup>2</sup> Clyde E. Phelps, "Transiting—Revolution in Warehousing," *DISTRIBUTION AGE*, February, 1958, p. 37.

several thoughtful people, definitions and meanings are bound to overlap. The same terms are used to designate difference activities.

The materials which follow will present one viewpoint of a systems approach to transportation and warehousing activities. It will include a brief discussion of: The total transportation system, total warehousing system, physical distribution system, and physical distribution as a segment of the marketing and business system.

### Total Transportation

The total transportation system is shown in Chart I. Essentially, it is the integration of two or more modes of transportation to provide shippers with more effective services. Under this concept, various alternative and complementary methods of transportation are coordinated to better meet the shipper's needs. The concept is not as broad in scope as the physical distribution concept. Instead it is one sub-system of the total system of physical distribution.

Specifically, the total transportation system combines rail, air, truck, pipeline, and water carriers. It is concerned, too, with such facilitating transportation agencies as freight forwarders, railway express, parcel post, air express, and shipper's associations. Management faces the challenge of combining transportation elements in an optimal manner to obtain the most profit. Trailership and piggyback are examples of individual carriers combined to achieve more efficient handling and movement.

The total warehousing concept deals with integration of storing and handling. Under such a concept, the warehouse is no longer just a storage facility. It is an important component of the marketing channel. Its goal is moving goods in the most efficient manner possible.

In the total warehousing system, all the functions performed in storing and handling merchandise are coordinated. This overcomes barriers of space, time, and competition in getting goods to consumers as effectively as possible. This coordinated approach to warehousing activities is resulting in new and more efficient dis-

(Please Turn to Page 64)



### THE PHYSICAL DISTRIBUTION SYSTEM



## A prepacked solution to order-picking problems



Packing stations are pictured here. Note the skate conveyor which moves packages to assembly point for the trip to shipping stations

Revision of its order filling procedures has brought a new cost-cutting system to this automatic-washer warehouse

**W**HEN a company finds that its costs of warehousing and filling parts orders are accelerating quicker than sales, something has to be done.

It can hire new personnel and add to warehousing facilities—a costly solution. Or it can revise the system under which it has been operating. The Maytag Co., Newton, Iowa, a manufacturer of home laundry equipment, decided to revise its system which was largely unchanged since World War II.

The advent of automatic washers after the war and a rapid ser-



ies of improvements in home laundry equipment had swelled the company's stock of models and types of appliances to more than 20 times pre-war level.

The complexity of the automatic equipment multiplied by the large number of model changes had placed a tremendous burden on the old parts supply system. The ratio of payroll cost to sales had increased 1.4 per cent. The total cost sales-ratio of the parts warehousing operation had increased 3 per cent.

The distribution net work was calling for faster customer service. This seemed to indicate a need for additional personnel, even though payroll costs were increasing. At the same time, an increased inventory level was contemplated to insure that stock on hand would be sufficient to meet rising sales demands. Meanwhile, inventory control at the plant was recommending that stock levels be reduced.

#### Order Delays

In the warehouse itself, two weeks were required to fill some orders. Delay in filling orders and in packaging prevented parts from accompanying shipments of new merchandise with which they were ordered.

To study the relationships of the

various functions involved, investigate the existing facilities, and recommend the subsequent alteration of the company's warehousing program, Maytag retained a management consultant. A specialist first determined the requirements of the parts, distributing, purchasing, and inventory control functions. From these findings, the consultants were to design a new warehousing system to meet the requirements of all three functions.

#### One-Day Orders

Maytag wanted one-day service in filling parts orders. An investigation of internal manufacturing operations and outside parts suppliers showed that a lead time of four weeks was necessary in obtaining parts supplies. Inventory control was posting accumulated sales for 30-day periods and had limited knowledge of stock levels throughout the month.

The consultants reviewed the sales record of a total of 5452 kinds of parts on hand. As part of its unwritten customer service program, Maytag maintains a stock of parts for every machine it has manufactured in the last 30 years and for some earlier models for which there still is some demand.

From the sales study, the con-  
(Please Turn to Page 66)



Order filler works out of forward stock area using special order cart



Parts are arranged on the cart in same order as that used on the form



Schedule sign-out clerk perforates an original order, shipping label

This is a general view of the shipping stations. The order-filling and packaging facilities are at the rear. Shipping revisions like these have cut costs



Original package bins are shown at left, reserve stock is kept at right

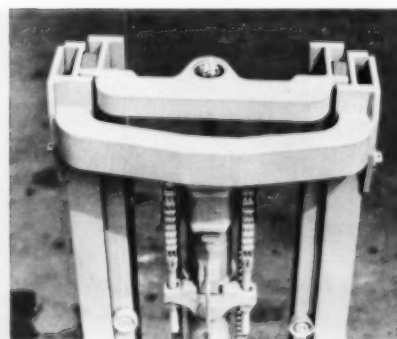
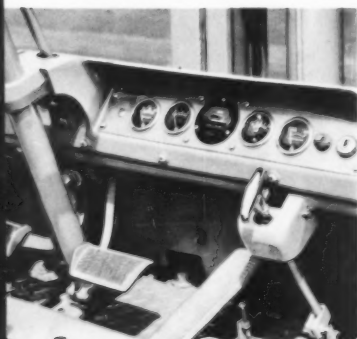




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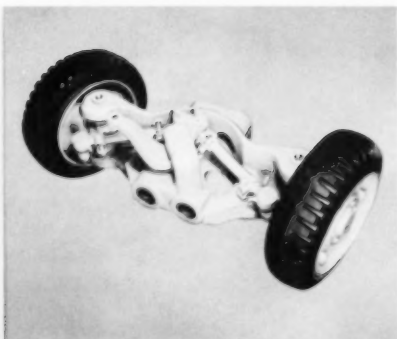


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TRACTOR SHOVELS • HOISTS

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**"E**VERYBODY likes that fellow. Men do more for him than they would for their own mothers. He's just a natural born leader!"

The person who made that statement was as wrong as he could possibly be. The executive of whom he spoke worked long and hard at making his staff feel that way toward him. Without a doubt he is working just as hard at it today. He will have to in all the tomorrows ahead.

No man is given the gift of leadership at birth. It comes from long and patient study, continued careful procedure, and a deliberate effort to secure such profitable response from his fellow men. What secrets has he discovered? None whatsoever. Here are the assets he has developed, the thinking and acting processes he uses, and the steps he takes toward securing satisfactory performance from his staff.

#### Balance Effort

Balance out the effort required—don't load assignments on some individuals and not on others. This discourages those who have ability (no one man likes to be the work horse in any group) and leaves others with little to do. No group of people can accomplish what its executive desires of it unless every member therein has something to do on every assignment.

Be sure the "tools" are available. When we hand out assignments or tasks to be done, full cooperation is certain to be lacking if we fail to supply the necessary "tools." These may be such things as proper equipment information on how to proceed, and specific information we may have. Every physical aid available should be handed the men and women we direct as an assist in getting the assigned job done better.

Define the duties—both the overall aim and the specific chores to be accomplished by every individual on the staff. People like to know what is expected of them from the man heading their group. That applies to the individual as

## Getting top performance from your staff

**The "how to" of securing top performance from your staff, the thinking and acting processes to use for everyone's benefit**

well as the group. Too often we set such a goal for the staff and completely neglect to break it down into individual duties of each member.

Play up self interest. The men who get others to do things for them learn this as a cardinal principle or they never attain successful leadership. Just as we have our own self interest in getting the task accomplished so does each individual have a specific self interest. It may differ from one to the other within the group. If we take the time to ferret out each person's self interest we can chart our course of action so as to appeal to that feature.

#### Staff Conflict

Avoid "conflict" within the staff. "Conflict" should not be mistaken for competition. The latter is a valuable factor we can always put to good use. The former can be injurious when our own planning runs up against that from other directions from within the staff as a group. Then there is conflict of interest on the part of each individual. The phase of the job or assignment bearing the most importance to each and every individual on the staff will receive first importance. This never finds all within the group falling into line on one side or the other.

Set your demands at a reasonable level. Do you yourself attempt to attain goals which are

distant and most difficult as you see them? Few of us do. We prefer to channel our efforts toward more attainable things. This applies to everyone in this world. When unreasonable demands are presented to any group the degree of effort put forth by the members will always be small. When our requests of the group are kept at sensible and reasonable levels (in their eyes), we can have much greater assurance of results being forthcoming.

Approach each member of the group individually if at all possible. The individual and personal appeal places that person at a much higher level than if spoken to only as a member of the group. "J. B. asked me personally to put forth extra effort on this," is something all of us have overheard at one time or another. The words were spoken with pride in every case. That man or woman had been given something extra as an incentive.

#### Explicit Rewards

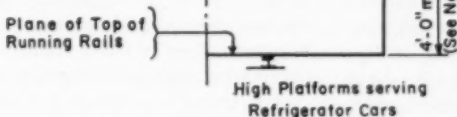
Make the rewards explicit. When we ask our staff to do something extra and offer no reward to the group or individuals we reduce incentive. That in turn always means lowered personal effort. There are group and personal rewards in every effort whether material or just personal satisfaction. We should never assume that  
(Please Turn to Page 68)





### NOTE

Where 8'-0" horizontal clearance is not available, the height should not exceed 3'-3"



# Is the wooden pallet a fire

## A discussion of conventional wooden pallets and their relationship

By D. O. Haynes

DA Materials Handling Consultant

**"M**ODERN storage and materials handling techniques have brought about about a serious fire protection problem<sup>1</sup>." "The increasing use of electric-powered and gasoline-powered handling devices, together with the use of combustible skids and pallets for lifting and tiering under some circumstances contributes to the fire problem<sup>2</sup>."

These are statements by leading fire prevention authorities. They carry such grave implications for everyone connected with warehousing that we decided to investigate the subject. Our first purpose was to determine, through a study of warehouse fire records, the role played by palletization in such fires. And we wanted to look at the other side of the picture to see if fire experiences showed instances where palletized storage conditions were helpful in fire protection.

### What Fire Records Show

In its Technical Survey No. 1, the National Board of Fire Underwriters lists and describes briefly 88 representative fires. The foreword of this survey says that "a study of some 5000 warehouse fires revealed that nearly one-half of them were caused by five principal causes. Listed were smoking and

matches, spontaneous heating, heating defects, exposure from outside fires, and misuse of electricity.

In the short discussions of the 88 fires, no mention is made in any instance of pallets or palletization being contributory to the fire. One of the fires is described in the text in greater detail. A Utah warehouse containing canned goods was destroyed by fire originating in outdoor storage. Employees ignored a small grass fire which later ignited several piles of wood pallets stored conveniently close to the building. The piles were from 12 to 15 ft high and sparks were blown to the roof of the warehouse which burned to the ground with a loss well over \$200,000."

### Other Examples

Let's examine the fire records published in the April 1958 and April 1959 issues of the Quarterly of the National Fire Protection Association. In the earlier issue, 55 large loss fires in warehouses during 1957 are detailed. A large loss fire is one in which the loss is \$250,000 or more.

In the issue of the following year 42 storage fires during 1958 are covered and also the results obtained from an analysis of 288 storage fires from 1953 to 1958 inclusive.

The following factors are listed as influencing fire spread under the general heading of Storage Method: Poor stock sub-division, stock pile too high, combustible wrappings, inadequate window clearance, other storage factors. It is, of course, possible that some of these conditions might have been attributable to palletized handling and storing. But no mention is

made anywhere of pallets or of palletization as being contributing factors over the six-year period.

There is no intent here to belittle the importance of any factor which tends to increase the fire hazard in warehouses and open storage locations. Fire is too serious a matter to be dealt with lightly. To be sure, there are isolated instances reported where fires were started by an explosion which occurred when a driver attempted to fill the tank of an overheated fork truck from a 5-gal can. Or in another case, high-piling prevented sprinklers from functioning properly.

However, such experiences are due to the misuse of handling equipment rather than to hazards inherent in pallets. These are some of the circumstances referred to in one of the quotations above. We shall have more to say about them later. But what is meant by the "serious fire protection problem" brought about by "modern storage and handling techniques" to which Nickerson<sup>1</sup> alludes in his article?

### Sprinkler Protection

"Palletized Storage Problems" directs attention to storage of idle pallets and storage on pallets. Special reference to the effects of pallet construction and palletized storage to determine "whether a hazard exists beyond the scope of sprinkler protection and, if so, what can be done about it . . ." is made.

Based on tests made at Factory Mutual Laboratories, Nickerson concludes that "large quantities of idle pallets should not be stored indoors in mass piles. Storage for day-to-day use should be subdivided into small units, not exceed-

<sup>1</sup> M. H. Nickerson, assistant director, Factory Mutual Laboratories, "Palletized Storage Fire Problems," reprint from July, 1957, NFPA Quarterly, National Fire Protection Association, 60 Battery March St., Boston 10, Mass.

<sup>2</sup> Committee on Fire Prevention and Engineering Standards, Research Division, Technical Survey No. 1, "Fire Safeguarding Warehouses," The National Board of Fire Underwriters, 85 John St., New York 38, N. Y.; 1953.

# hazard?

## to warehouse fires

ing 6-ft. high, and preferably not over 4-ft high, under sprinklers. Bulk storage should be kept outside important buildings. Firestopping of the pallets will reduce the fire hazard appreciably and single piles of firestopped pallets, not exceeding 8 ft in height, may be stored indoors under sprinkler protection."

Summary results of tests made in the empty carton series are given. They prove conclusively the advantage of firestopped as against conventional pallets when used with sprinklers. We shall not discuss the tests in detail nor the construction features of the two firestopped pallets developed for the tests. The difficulties of establishing "a safe style of pallet as a national standard" are many. However, Nickerson feels this "is essential if we are to reduce the fire hazard."

Mention is made of results secured with fire-retardant treated pallets. Several helpful suggestions are given in such matters as the installation of a reliable smoke detector where stock in cardboard cartons is stored. However, one cannot but wish that the tests were made more extensive to include results under other than sprinkler protection. The records of large loss fires from 1953 through 1958 show that of the 288 fires analyzed 245 or 85 per cent occurred in unsprinkled buildings—an eloquent testimony to the effectiveness of sprinklers. Certainly nothing should be done which affects this type of protection adversely. But it would be interesting to know how palletization contributes to or lessens protection where dependence is placed on fire brigades, portable extinguishers, standpipes,

## AN APPEAL

The constant danger of loss by fire makes the subject of fire prevention one of utmost importance to warehousemen. The more information available on the subject the more intelligently it can be improved.

If you have experienced a fire in a warehouse or open storage where pallets or palletized unit loads were involved will you send us the full details—products handled, height of piles, aisle widths, type of protection, etc.? Also let us know what parts—whether favorable or adverse—pallets or palletization played in holding down or increasing the loss.

Have you done any experimental work, either in pallet construction or otherwise to improve the fire resistance of wooden pallets? Let us know about the work you have done along these lines.

In publishing the replies to this appeal, names of companies and individuals will not be used. Thank you for your cooperation. Please address your replies to me personally.

A. W. Greene  
Editor

and hose systems. A comparison of conventional and firestopped pallets under a variety of conditions would prove enlightening.

### Safe Storage

"Fire Safeguarding Warehouses" approaches the whole problem of fire prevention and protection of warehousing and storage stockpiling from a practical point of view. The all-inclusive scope of this survey covers building construction, storage and related activities, maintenance, and fire protection. We cannot do more than high-spot the recommendations which it makes regarding pallets. It is a publication which every warehouseman should have.

Recognizing that "the determination of good storage practices must consider not only efficient use of space but also fire-safe arrangements," the survey discusses pile heights, aisles, clearances, and location of stock. In almost every instance, the recommendations are supported by one or more experiences of actual fire happenings. A number of cases cited refer to conditions which are apt to be overlooked. For example there is the floor-load consideration. High-piling may result in weights which exceed the normal floor-load capacity if the product absorbs large quantities of water when wetted down by sprinklers or hoses. In one instance, a roll of paper absorbed a ton of water during a fire. In another case it points out that

"clearance from walls and columns is particularly important where the possibility exists for water soaked bales of jute or similar material to expand sufficiently to cause collapse of the sections of the building which may have resisted the effects of fire."

### Advantages

Although the survey draws attentions to the problems inherent in palletized storage, it also points out some of the advantages this modern technique affords. The wider aisles required by fork lift trucks. The fact that aisles are less apt to be cluttered up because such conditions would interfere with traffic flow. The orderly arrangement of stocks, greater mobility of stored goods, self-provided floor dunnage to protect from water damage, and greater stability of stacks are among the plus factors in favor of storage on pallets. In connection with this last subject—pile stability—the comments made are so significant that we quote them almost fully. "Stability of the pile is another factor which affects its height.

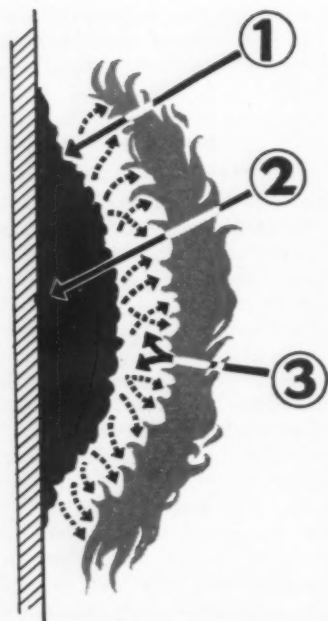
A stack of lightweight cartons would probably collapse when one of the lower cartons became water soaked. The resulting disorder could easily block the adjoining aisles. One of the means by which a stack can be made more stable under ordinary conditions is the wood pallet."

(Please Turn to Page 69)

# The inside story on fireproof paints

The new fireproof paints on the market can act as your primary guarantee against a fire starting in your warehouse, but be sure to check Underwriters' Laboratories ratings

Walter Eiermann  
Technical Director  
Alim Corp, New York



Paint coating puffs into sponge mat (1) which halts spread of fire and flame. Albi Manufacturing Co. makes paint with tiny air cells (2) in it to insulate against heat penetration and protect against ignition damage. Paint releases inert gases to quench fire, (3) blanket off oxygen

LAST YEAR, at Otis Air Force Base, two identical wooden Air Force barrack buildings were set on fire deliberately.

One building had been painted with an ordinary standard interior house paint (combustible). The other was protected with a new Underwriters' listed fire retardant paint.

The demonstration was witnessed by top officials of the Armed Services as well as many building officials from various municipalities. They had come to see whether a fire retardant paint could actually prevent a building from burning down. The fire loads of furniture and paper in both buildings were the same. The buildings were simultaneously ignited.

## The Result

One building burnt to the ground in about 45 minutes. The other, painted with fire retardant paint, after clean-up and minor repairs, was ready for repainting. Similar tests have taken place throughout the country. The results are no longer ignored by the authorities charged with fire safety.

It would take an entire library of records and data to get an accurate cross-view of the tremendous toll taken by fire fed by

standard paint of combustible nature. A prime example is the Wyncoff Hotel fire in Atlanta, Ga. This was a fireproof building, but the walls of the corridors had many thick coats of combustible paint over sheets of burlap used for wall coverings. The flames, fed principally by the paint, raced through the corridors and filled the rooms with smoke and toxic gases. Scores of lives were lost.

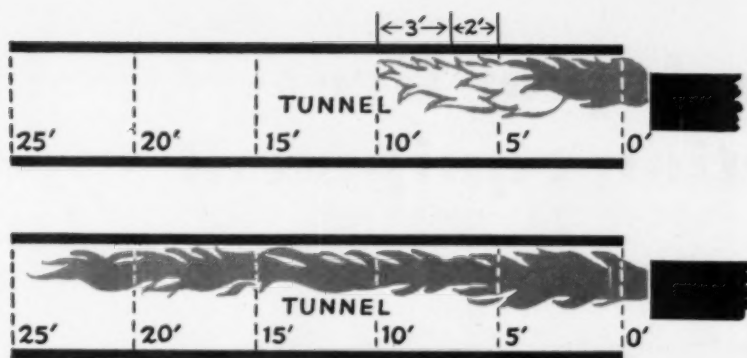
## Pearl Harbor

The Pearl Harbor tragedy of Dec. 7, 1941, would have been far less severe had not combustible paint on the bombed warships contributed considerably to the losses by igniting through closed bulkheads, and by serving as a fire carrier in the gangways.

Most standard paints on the market today are of a combustible nature. After many coats have accumulated over the years potential fuel is added which can create flash fires by acting like a wick or fuse, carrying the flames through an entire structure in a matter of minutes.

After experiences like Pearl Harbor, the federal government encouraged the development of paints and coatings which had incombustible bases. Such coatings were in many cases called "fire retardant" or "fire resistant."





A gas burner furnishes flame under forced draft over entire width of sample to 5 ft mark. After ten minutes on special coated paint, flame travels less than 2 ft more. Flame spread rating is 10. And after 30 minutes on the special coated surface, the flame travels only 3 ft beyond that point. The Underwriters' official tunnel test calls for unusually severe fire exposure for 10 minutes. A flame spread rating of 0-25 qualifies as non-combustible

They are still referred to as such in federal government specifications. This type of coating, though being incombustible in itself, does not protect a combustible material from fire. This fact is still causing considerable confusion in the mind of the prospective buyer and user of fire retardant paint.

What is the difference between a coating which prevented a wooden building from destruction as in the Otis test, and an "incombustible" paint, also labelled "fire retardant" which is merely not providing additional fuel? The answer is found in the following: A fire retardant paint which can provide actual fire protection to combustible surfaces carries the inspection label of Underwriters' Laboratories on its containers. This label also indicates the flame spread classification, fuel contribution, and smoke development as established over combustible surfaces.

#### UL-Rated Paint

Many of the highly-rated Underwriters' Laboratories fire retardant paints today are of the "intumescent" type and perform in the following way:

When exposed to fire or excessive heat (around 300 deg F) they swell up into a foamlike insulating mat which prevents the surface

underneath from reaching its ignition temperature. Walls or ceilings painted with this type of coating will not act as fuel for the fire. The result is that the fire stays localized. Often it dies out by itself after the fuel in the form of combustible interior furnishings is consumed.

The insulating action of such a fire retardant paint can also be utilized for the protection of incombustible surfaces, such as structural steel, which loses its structural strength at relatively low temperatures (1000 deg). Remember General Motors' famous Livonia fire which became a major disaster when unprotected supporting steel beams and columns collapsed in a mass of twisted debris within a matter of minutes after the outbreak of the fire?

#### Tunnel Test

For testing fire retardant paints to establish standard ratings published in their Building Materials List, Underwriters' Laboratories has adopted the tunnel test method. It determines the flame spread characteristics. The apparatus is a 25-ft long steel fire tunnel, divided in 100 measuring units.

The material to be tested is placed inside the tunnel with the flames applied under exact conditions at one end of the tunnel.

Flame spread "0" is established by the length of flame produced over a completely incombustible surface (cement asbestos board). The flame spread classification of a material is established by the distance which the flames travel past the "0" mark on the test surface during a period of 10 minutes, and recorded in flame spread classification "units." These "units," instead of being feet, are special measurements for this test.

The National Fire Protection Association has classified the UL flame spread ratings as follows:

- 0 to 25 incombustible
- 25 to 50 fire retardant
- 51 to 75 slow-burning
- 76 to 150 combustible

Up to the end of 1958 the fire retardant paints then on the market ranged anywhere from 35 up to 70, mostly rated over tongue-and-groove Douglas Fir. Since the beginning of 1959 fire retardant paints have appeared with flame spread ratings in the "incombustible" class of 0 to 25, some of them being rated as low as 10.

This corresponds, for example, with 1/2 to 1-in. layer of sprayed-on limpet asbestos. It is of interest to note that ordinary combustible paints have flame spread classifications starting from 150 up to as high as 500. This means in effect that it can take a fire 10 times as long (let's say 50 minutes) to spread over a surface painted with a fire retardant paint rated 15 than over a surface painted with a standard type oil base house paint, rated 150 (5 minutes).

Underwriters' Laboratories not only tests and lists these products for the convenience of the consumer, it also exercises a rigorous production control over the manufacture of the labeled materials, assuring and guaranteeing the customer that he is getting what he has specified.

Today fire retardant paints are finding an ever increasing market. In New York, fire retardant paints, meeting a minimum Underwriters' Laboratories flame spread rating of 35 are accepted in various cities as an alternate means of compliance with certain provisions of the State Multiple Residence Law. Since in many

(Please Turn to Page 69)

# A roundup of fire protection equipment

Wet chemical extinguishers, permanent fire protection systems, and automatic fire doors can help make your warehouse a good risk in case of fire

**T**HE LARGE array of fire protection equipment available today makes the magnitude of many warehouse and terminal fires unnecessary. Proper care would have prevented many fires which burned many buildings.

## Fighting Team

For many warehouses, a stationary protection system is most practical. For others, portable tank wheel and hand units may be best. But most fire fighting elements can be paired and teamed for maximum protection.

One company, Walter Kidde and Co., Inc., recommends an automatic carbon dioxide fire extinguishing system for warehouses with flammable liquid storerooms. Such a system operates when there is a rapid rate of temperature rise. It floods the space with inert, fire smothering carbon dioxide gas. Or fixed temperature thermostats can be placed throughout a warehouse. When an area reaches a pre-set danger level, usually 135 or 180 deg F, the system will extinguish the blaze.

You can even have pressure operated switches and trips built into the carbon dioxide piping to automatically close doors, fans, electrical equipment, and sound alarms.

## Carbon Dioxide

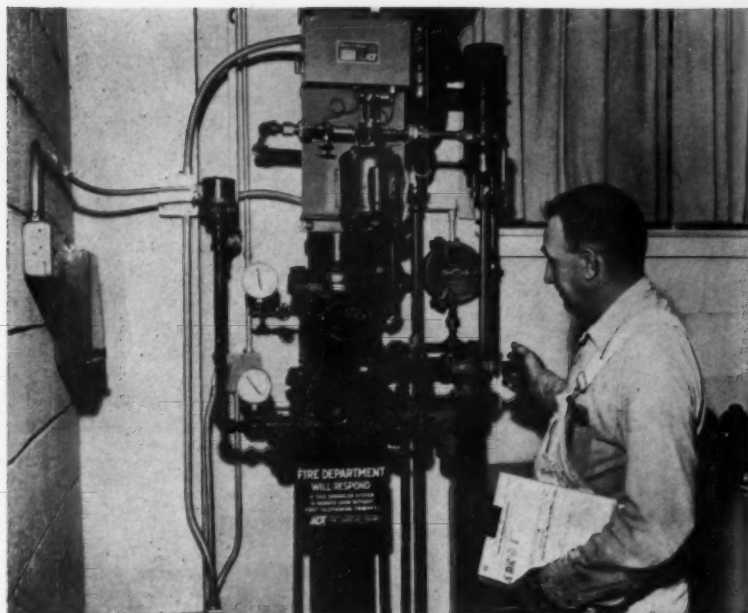
Kidde recommends 10-lb carbon dioxide or 5-lb dry chemical portables for trucks. Trucks transporting flammable liquids should have several portables at higher capacity. The company's line of portable wet chemical extinguishers has self-evident operation for anyone picking up a unit in a fire emergency. The operator need only aim the discharge nozzle at the fire and pull the trigger.

## Sprinkler System

First to admit that a sprinkler system's effectiveness is only as good as its supply and distribution of water is American District Telegraph Co. In many cases, carelessness or accidents—unchecked—seriously cripple a system by cutting off water supply or impairing distribution. ADT prides itself in its complete system supervision of shut-off valves, water levels, air pressure, water temperature, and steam pressure. Last year, the company answered 250,000 signals from sprinkler supervisory systems. ADT feels that most of the conditions reported



Firedoors like this one from Kinnear Mfg. Co. hold fire in one area while extinguishing units halt spread of it



Plant inspector makes regular check of sprinkler system. ADT supervisory devices detect, report closed shut-off valves and summon fire fighters

would have made the sprinkler systems ineffective. Automatic sprinklers detect a fire and immediately act against it. The system, when supplemented by ADT water-flow alarm service, also functions as an automatic alarm to summon firemen who help control the fire and turn off the sprinklers when all is well.

#### Water Extinguishers

There are pressurized water extinguishers, also. Safety First Products Corp. includes them in its line of equipment. Dry chemical units are available too. Dry chemical can be used on any type of blaze. It is non-toxic and non-abrasive. You can use it on electrical fires. It acts as an insulating residue on hot surfaces and liquids to prevent re-ignition. The cloud of powder acts as a protective shield for the operator; he can approach the fire closer and fight it more effectively.

#### Insurance Decline

It should be remembered that with many of these preventive systems, fire insurance rates decline. A frequent cause of heavy loss from fire stems from a lack of protection at doorways and

windows. Such openings act as channels for the flow of flames and induce drafts which can make a fire uncontrollable in a matter of minutes. The Kinnear Manufacturing Co. produces fire doors with these characteristics. They can be used as regular service doors without affecting their positive automatic closure protection in time of fire.

#### Maintenance

Maintenance of the doors is slight. Accidental damage to slats can be easily corrected. It is often a good idea to check windows with automatic fire window shutters. Windows act as avenues for fire to spread from not only one section to another but one building to another.

#### Other Sprinkler

Working on the automatic sprinkler basis is the fire protection system from the Grinnell Co., Inc. The system consists of overhead piping on which is mounted automatic sprinkler heads which open at predetermined temperatures. Sprinkler spacing is determined by the hazard involved. In a typical installation every foot of a building is covered. The piping is



Wet chemical portable extinguisher by Kidde. Just aim it to extinguish

graded in size to assure adequate water pressure at every sprinkler head.

#### Five Systems

There are five different systems: standard wet-pipe, standard dry-pipe, Simplex dry-pipe, Multitrol deluge, and Multitrol dry-pipe. Standard wet-pipe systems are designed for installations where temperatures remain above freezing. Dry pipe systems are for areas where temperatures go below freezing. ●

This tank by Safety First smothers fires with a foam in form of cloud



By George E. Toles



Thirteen acres are covered by the roof of this new distribution center in Milwaukee. Within its walls is one of the top operations of its type

## NEW CENTER fills 1600 orders per hour

Four sorting systems in this warehouse speed light products to the shipping area

**D**ISTRIBUTION'S most modern tools are at work for this company. To be able to use them, the company replaced six warehouses with one. Now orders can be filled at 1600 per hour.

The new \$5,000,000 combination distribution system and warehouse of General Merchandise Co., in Milwaukee, Wis., is considered one of the most unusual in the country.

The one-floor structure has 546,000 sq ft of space. There are over 13 acres under one roof.

The six old warehouses, with combined floor space of 608,000 sq ft, were in a mile-radius area in Milwaukee's downtown east side. As the wholesale company's business grew in recent years, these warehouses were acquired on a lease basis.

The need for a consolidated op-

eration became apparent several years ago. The awkward system of inter-warehouse transportation, multiple handling of merchandise, and multi-floor operation had become a real problem. Receiving, handling and shipping several hundred thousand items is no small operation.

The "heart of the business," the office building, is still being maintained in downtown Milwaukee. Here the customer orders are received and processed in preparation for order picking and shipping at the new distribution center.

All of the offices, lunch rooms, time clocks, heating, water and electrical units, and lounges are located along the west wall of the building. The building is constructed principally of concrete block with some brick along the

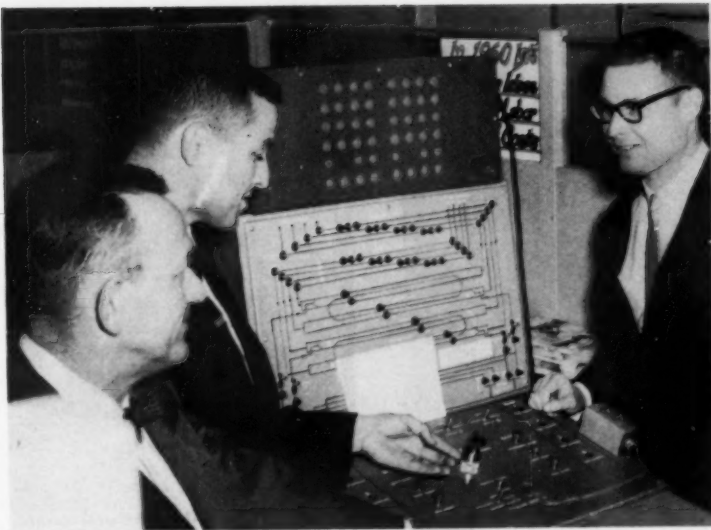
west wall. This west wall is the only one having windows.

The distribution center is in four distinct parts. Two of these are on each side of the middle fire wall. In the south half of the building are stored "A" item merchandise. The sortation system for these is in the same half. In the north half are the packaging stations and storage of "W" items.

There are three truck-dock areas. The docks at the southeast corner of the building are for incoming merchandise for the A section. Along the north wall, adjacent to entry of a railroad spur into the building, is a receiving area for trucks. These vehicles bring the heavier W merchandise. The track accommodates five boxcars inside the building.

At the northeast end of the





Stanley Kritzik (second from left), secretary of the company, and John Platz (right), the warehouse manager, discuss order-system control panel

Four conveyor lines, with the aid of an electronic brain, combine more than 100,000 parcels into 12,000 orders in a single eight-hour day

## where they meet heavy items

building, there is a shipping dock. Here a long conveyor system terminates. In all, there are 28 truck dock spaces. Of these, 16 are equipped with special dock bridges.

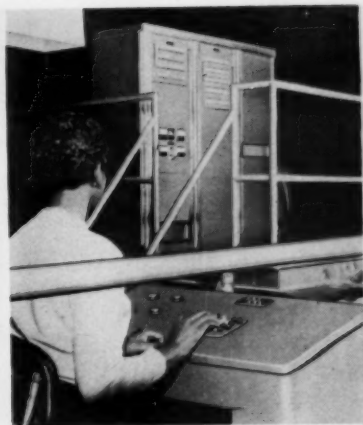
### Expansion

The warehouse is so designed that it can be expanded at either end without any substantial change of facilities.

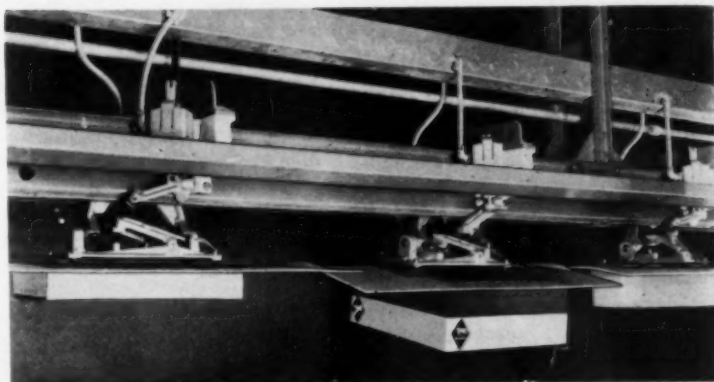
There are two general areas of handling and processing. These are the A and W sections mentioned above. Together, the two areas permit storage and processing of about 20,000 items. Additional merchandise is "drop shipped" direct to the customer from the supplier's warehouse.

The classification of merchan-

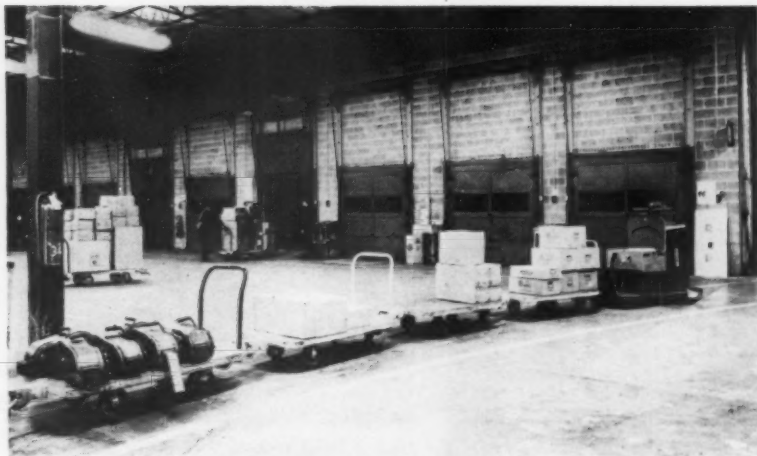
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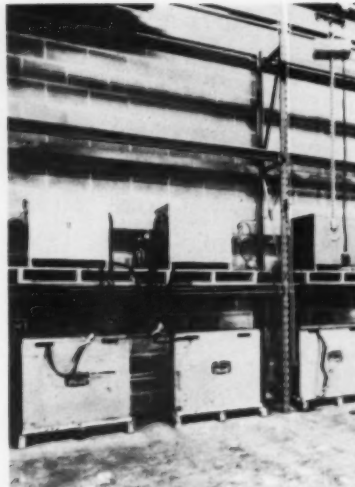
Analog computer, seen over key punch operator's shoulder, receives and stores order numbers then triggers the tray tilting for order picking



Closeup of the double-tilt trays. When roller rises, the tray tilts, dropping the package into tote pan. Pans are on both sides of conveyor



Battery-powered tractor pulls trailers, follows wires in floor tied to each of 16 station circuits



Silicon rectifier chargers are mounted on the racks as shown in this illustration. Gould batteries are charged on skids underneath the chargers. The batteries are placed on the skids with the help of a straddle truck. A hoist helps remove the batteries from the various materials handling equipment. This area services the fleet of 16 trucks

## New center fills . . .

(Continued from Preceding Page)

dise as A and W items is based upon several, sometimes conflicting considerations. A items are generally small, and light in weight. They often require repackaging for shipment to the customer. W items, on the other hand, are relatively large, bulky, heavy items. They are stored in their own shipping containers. By applying a shipping label to the container, they are ready to be shipped.

The A section has its own receiving area consisting of 10 truck slots. The merchandise is unloaded from the trucks and placed in a checking and marking area. Here the shipping containers are opened. Each piece of merchandise is removed and stamped with its stock number. The merchandise is then stacked on wooden pallets and moved on tractor trains directly to the picking bins or to the surplus stock area.

### Order Processing

Orders are processed by the bulk picking method. Therefore, the Tabulating Department in the company's downtown office prepares picking tickets for a large number of orders at one time. Orders are usually processed in groups of 100, 300, or 400 at a time. This procedure creates efficiency in the pick-

ing area by permitting an individual picker to select all the items from a particular shelf for a large group of orders. Otherwise he might have made many separate trips to that shelf to fill each order one by one.

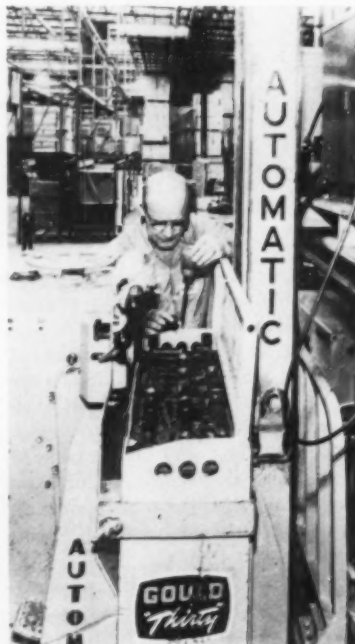
As the picker selects an item, she attaches it to a picking ticket to identify it as a part of a particular customer's order. She then places the item on one of a series of take-away belt conveyors. These travel past all of the picking bins and transport the articles to the electronic sorter.

The thousands of packages which make up the large group of orders being filled are all "picked" and sent on their way to the sorter within a 15 minute period. The function of the sorter is to separate these thousands of articles into the individual customer orders to which they belong.

The sorter consists essentially of a series of flat metal trays traveling around a long horizontal loop. Each tray is designed to carry a single package regardless of size. Where the belt from the picking area meets the sorting conveyor, the packages are transferred to the sorting trays. Next, they pass an operator's station. Where the order numbers appearing on the picking

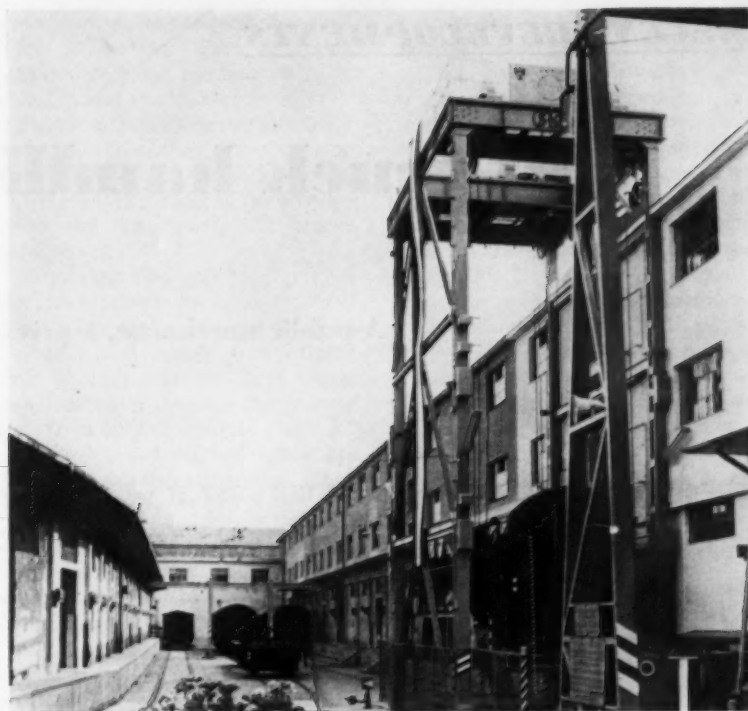
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An attendant is shown checking the electrolyte level in cells. He will add water when it is necessary. The specific gravity readings are always taken to make certain that both the charger and batteries are functioning properly. The battery-room attendant is responsible for charging the batteries. A charger brings a battery up to full charge by a taper curve and automatically reduces the charge to low rate, maintains charge



By John Grindrod  
*DA European Correspondent*

This warehouse in Vienna lifts railroad cars up for loading, unloading, and to let other cars pass underneath. Automatic controls protect workers and assure correct position of the electric elevator



## Rail cars lifted for upstairs loading

**T**O ENABLE goods to be handled directly at all floors of the company's bonded warehouse, a 40-ton wagon lift has recently been installed in Vienna by "Intercontinentale" Oesterr. A. G.

### Lifts High

This railway wagon lift is capable of raising fully-laden trucks from the ground-floor to the first and second stories. It was designed to meet the ever increasing need to rationalize transport by speeding up individual stages, reducing effort to a minimum, and moving goods only on one level, if possible.

Installed by Simmering-Graz-Pauker, A. G., of Vienna, the new lift is powered by a 46 hp electric motor. It is controlled from the ground floor level and operates through 16 wire cables of 20 mm diameter located at the four top

corners of the lift framework.

The railway wagon to be lifted is shunted over entry-tongues onto a platform at ground level. Movement of the wagon then is prevented by blocks at both ends. When the platform is raised bolts automatically engage with the wagon as an additional safeguard.

While the wagon is in a raised position at the first or second story for loading or unloading or to allow another wagon to be shunted under the platform, props automatically support the platform.

### Speed Reduced

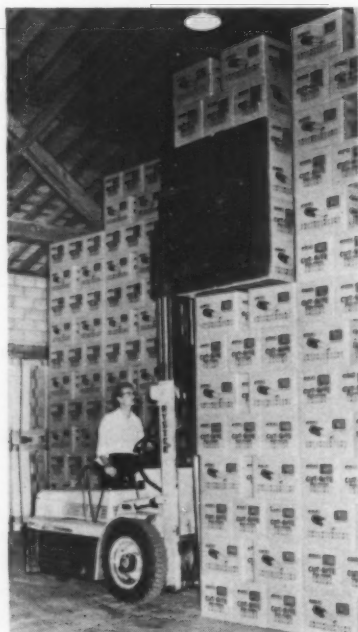
As the platform approaches the upper floor connection, the lifting speed of 3 m/min. is reduced by half. Thus there is no jolting when it comes to a halt. The platform then rests on the props and the strain is removed from the cables.

The approaches to the lift shaft from both the ground and upper floors of the warehouse have safety gates fronting onto the shaft. These gates are automatically bolted by an electrically-operated mechanism. The working of the lift is such that the correct level at the upper floors is attained automatically by the action of a floor "feeler" device. This reduces the adjustments necessary to bring the hoist in correct alignment with the required warehouse floor. Not until the raising operations have been completed can the protecting gates be opened.

On completion of the new handling system the premises were subsequently visited by the Prime Minister of Austria, Dr. Julius Raab, who showed great interest in the distributing activities of Intercontinentale A. G. •

# Lift-truck handling without

A public warehouse, a private warehouse, and a plant are



Security Terminals uses Hyster lift with grab for high stacking cartons

**T**HE COST of pallets, both in initial cost and lost storage space, has caused many companies to look for other methods of handling. One of the most popular of these is the use of clamping attachments on lift trucks.

Among the companies which have recently adopted palletless handling is Security Terminals, Inc., of Sandusky, Ohio. Flexibility for handling items of assorted sizes and shapes is provided by four pneumatic-tired lift trucks. Capacities range from 2000 to 4000 lb. Two trucks have clamps and two are equipped with standard load arms.

This public warehouse has 40,000 sq ft of floor space and a 20-ft stacking height. Products handled include waxed paper, radio sets, and light bulbs.

All incoming items arrived in boxcars and trucks solidly packed. Workers unload and stack the mer-

chandise in unit loads for pickup by the clamp truck. Taken to storage, the merchandise is rapidly stacked in piles aligned by the side-shifting feature of the grab unit.

Handling costs for some items have been reduced by as much as 50 per cent. Merchandise can be lifted to fill the full 20 ft of inside storage space.

Similar experience has been reported by a Cincinnati, Ohio, grocery warehouse. The Kroger Co. is using a combination pallet and palletless system.

In its fleet of 14 lift trucks, there are four equipped with hydraulic clamps and carton-handling arms. Produce and fruit are handled on pallets. So are fish, frozen foods, and shank meat. About 60 per cent of grocery items are handled without pallets.

Items handled by clamp trucks include canned goods, granulated

Incoming shipment is plucked off warehouse trailer in operation at the Kroger Co. warehouse in Cincinnati



Outgoing order is placed in truck by Lewis-Shepard lift at The Realistic Co. Clamp pressure can be regulated





# pallets

## among users of clamps

soaps and detergents, liquid detergents, paper products, dry cereals, salt, shortening, canned milk, cigarettes, and matches.

Shipments arrive at the 286,000 sq ft warehouse by rail and truck. Receiving crews unload, transport, and store 24 hours a day, six days a week.

Merchandise arriving by rail is

stacked on pallets or built into unit loads in the car. Fork or clamp trucks pick them up, haul them to storage, and stack them.

Truck shipments are palletized or unitized. Then they are placed on warehouse trailers which are towed by an electric tractor to the storage area. At that point, lift trucks stack them.

A picking line and surplus area are maintained for fast-moving items. The picking line is one-load high for easy reach. The surplus area is high stacked. Both clamp and fork trucks service the picking line from surplus stacks.

In order picking, all items are placed on warehouse trailers. When a large quantity of one item is required, a lift truck is called. Electric tractors haul trailer trains to the dock with shipments destined for the 74 retail stores served by the warehouse.

The Realistic Co., of Cincinnati, is using clamping attachments not only for its distribution handling

method but also in its production department.

Two electrically-powered lift trucks are used. Generally, one truck is assigned to the receiving department. It enters incoming vehicles—cars and trucks—to pick up loads. From the dock it carries the materials to the storage section.

When materials are needed at the production lines, the non-palletized loads are removed from storage.

The second truck is used at the other end of the operation. It takes finished goods from production to storage. The same truck carries the company's line of products for professional beauticians to the outgoing vehicles. Besides these assignments, the truck is used for order picking and drum handling.

Before this handling method was introduced, the company used hand trucks and skate wheel conveyors. The company estimates that about 160 hours in handling time is saved each week. About 33 per cent more usable space has resulted. ●

## Multi-Forks and Tape Are Combined In New Dunnage and Loading System

A new loading method was demonstrated recently at St. Paul by Minnesota Mining and Manufacturing Co.

Dunnage-free shipping was combined with palletless loading and unloading. The Unit Load Car Corp., Chicago, made the car and trailer used. The car's test run was to Los Angeles and the truck's to Chicago.

The loading procedure, taking about 30 minutes, was as follows: A unit load was built, the top being bound with pressure-sensitive tape. The load then was carried on multiple forks (top photo) to a vehicle with a corrugated floor. The grooved floors acted as fixed bases for the loads. The lift drove directly into the vehicle and lowered its fork, letting the load rest on high ridges of the floor. Then the forks were withdrawn.

Insulated walls divide the car into six compartments. Each compartment (bottom photo) holds four 40 x 48 loads so that dunnage is not required. The car has overhead doors on both sides of each compartment for fast loading.



# DM—new title on the door

Great interest has been focused in recent months on the rise of the distribution manager in American industry. Business leaders ask, "What are his duties?" "What qualifications should be set for the job?" Many people have an answer to these questions. However, there is no single answer at the present time. Therefore, from time to time *DISTRIBUTION AGE* will bring you the opinions of various distribution leaders on the dm and his job. This article is excerpted from a speech presented by the author at the American Management Association Conference on Distribution Management held in New York recently. It was originally entitled "The Distribution Manager—A New Organization Title."

**B**Y WHAT title does this new professional manager who is responsible for the administration and operation of the physical distribution organization and all related functions operate? Simply, but dynamically, by Distribution Manager.

## Definition

Only by defining his responsibilities, qualifications, and current habitat can we have a complete realization of what the title stands for. Here are a few of his responsibilities. He:

- Develops for the approval of his superior, objectives, policies, and programs covering the administration and operation of the distribution department and all related functions.
- Establishes and maintains these same objectives, policies, and programs once approved.
- Administers and operates the distribution department to effect top service at least expense and low finished stock inventories.
- Follows company policies in aiding approved objectives, policies, and programs.
- Prepares and presents, for the approval of his superior, annual operating and major expenditure budgets.
- Directs and supervises the

movement of finished stock to and between distribution centers and production points.

- Directs and supervises the warehousing, picking, packing, and shipping of finished stock.
- Develops short and long-range plans.
- Establishes, maintains, and administers through appropriate managers adequate distribution centers at favorable locations to serve customers efficiently at low transportation, warehousing, and shipping costs.
- Administers industrial relations functions for the Distribution Department through distribution center managers and appropriate section heads.
- Administers the functions of traffic management including negotiation of classifications, rates, purchase of required transportation, and adjustment of claims involving carriers.
- Prepares and presents for approval of his superior a cost improvement program.
- Directs and supervises the operation of company-owned and leased vehicles.
- Selects, leads, inspires, directs, controls, develops, and discharges the managers of distribution centers and such other line and staff subordinates as may be required and authorized. Through them, he directs all personnel of the department.
- Develops, from within, personnel with the potential to qualify for positions of higher grade and increased responsibilities.

## Qualifications

The distribution manager should be a professional manager with a college education including a major in engineering or business administration or their equivalent. He should have at least 10 years'

experience in as many of the following as possible: Traffic, transportation, sales, marketing, finance, warehousing, shipping, and general management.

He should know how to use and work with the staff. He should be a manager of managers, and not of details. He should have depth, breadth, and the ability to see the entire corporate picture, not just his particular slice or narrow piece of his specialty.

The distribution manager should come from within the company. Undoubtedly he will be found in one of the components that go to make up the total physical dis-

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By George V. Evans

*Manager-Distribution Department  
International Latex Corp.*

---

tribution organization. Some of the areas to be examined are: Traffic, transportation, warehousing, shipping, storage, sales, marketing, engineering and financial.

He should not be selected on the basis of a particular technical skill. Rather he should be picked on the basis of his being a professional manager, an administrator. He should have the ability to plan, organize, and prepare policies, objectives, and budgets. He should select and train people. He should be able to delegate responsibility. People should be permitted to run the job with sufficient control to insure that they are operating within the framework of overall company and distribution policies. He must have faith, both in himself and in his subordinates.

## Management Training

There should be a well planned, clearly understood and well defined management development program for the distribution manager. It should be developed by him and his superiors with the as-

Further answers to the continuing questions about the dm and his responsibilities in the over-all physical distribution community today

sistance of industrial relations. His development program should consist of:

Phase I. Position rotation. He should be rotated through various positions of responsibility in line and staff work in order to give him breadth and depth.

Phase II. Corporate orientation. There should be a program planned and spelled out that will enable him to know and understand the operations, functions, and responsibilities of the overall corporate organization. Some of these would be: budgetary control, cost accounting, machine data processing, integrated data processing, industrial relations, management development, sales, marketing, advertising, traffic, transportation, manufacturing, quality control, production control, inventory control, and engineering.

Phase III. Individual development. To me, individual development is the key to the success of a management training and development program. This would consist of plant visitations, college courses, seminars, and memberships in professional organizations. One of the key training and development tools in an appraisal program in which the distribution manager develops with his superior a clear understanding of what is expected of him. His performance should be appraised and this appraisal discussed with him. A program should then be established to assist him in improving his performance.

#### Organization

The physical distribution organization, if we follow a pattern which is becoming clearer, is all  
(Please Turn to Page 72)

## MH system bags new profits

By Lyne S. Metcalfe

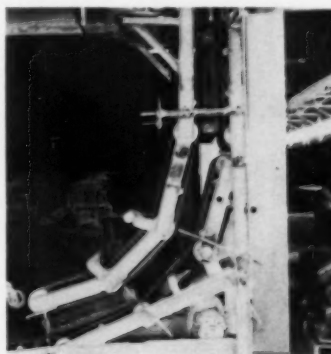
**L**IKE MANY progressive industrial companies loading large bagged and packaged products, this cement producer sought a practical method of speeding up the work.

At the General Portland Cement Co., the aim was to get bags and packages from loading areas and platforms into box cars and trucks. Hand vehicle loading proved to be costly. So, after careful surveys of available loading means and methods, the cement company turned to a flexible, self-powered, reversible conveyor. It can be retracted in seconds by push-button.

The main idea behind this system of handling is to cut rising costs of bag and package loading below those which have prevailed in manual handling. The result has been a 50 per cent saving. The conveyor uses a series of wire spring belts which ride over grooved rollers mounted in articulated frames. It can bend to either the right or left while running.

The conveyor can be placed in either end of the boxcar. As loading progresses, it retracts under power with finger-tip control. Another characteristic of the conveyor is its ability to follow any path or contour. In one instance three 60-ft flexible car loaders which are double-ended load 24 boxcars on four parallel tracks. With a swivel-stacker attachment, three men load 100-lb bags of flour in box cars to a 6-ft height. It used to require 12 men.

One producer of bagged material has a system which conveys bags from either of two high-speed packing machines through an elevator flattener to an overhead conveyor equipped with drop-through gates. Bags are sent to any one of four boxcar loading spots or to the truck loading dock. A vehicle loader then carries the bags to the stacking point inside the boxcar or truck—one operator at the bag filling machine, one man at the end of the loader. ●



Left: Conveyor is shown elevating and flattening bags between opposing conveying surfaces. Below: One man loads 100-lb bags into a boxcar. Notice that the load is neat, tight. Unit can move away







# NEW PRODUCTS

... FOR FURTHER INFORMATION

## Corrugated Steel Trailer

Fruehauf Trailer Co. is offering a new hi-tensile corrugated steel trailer which can be used either as a dry freight van or an insulated reefer. The front and side panels, which feature horizontal 1½-in. corruga-

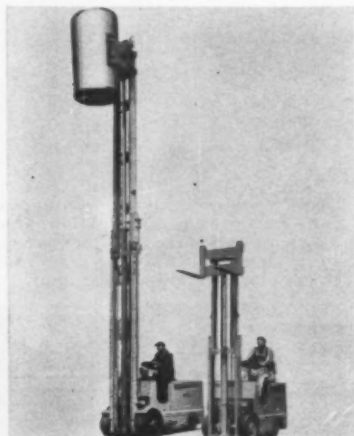


tions, are automatically welded to insure uniform strength throughout the trailer. This new van is available in lengths from 21 ft, 6 in. to 40 ft and has a 92½-in. inside width with full plywood lining. The doors are steel clad plymetal with double cam locks.

Circle 35 on Card, Facing Page 57

## Extra Heavy Lift Mast

A displacement-type cylinder was used by The Yale & Towne Mfg. Co. in designing an extra high lift mast



to handle rolls of paper with a standard, heavy duty Model 2-H paper roll clamp. Installed on K-51 Yale electric trucks, the lift height of this

model is 28 ft to the center-line of paper roll rotation. Lift speeds are 40 fpm with a full 5000-lb (clamp capacity) load and 65 fpm empty.

Circle 36 on Card, Facing Page 57

## Glue Gun

A dual purpose, roller-type glue gun for use on automatic packaging equipment is available from John P. Fox Co., Inc. This gun cuts glue costs



and insures faster, better bonding regardless of machine speed. It is ideal for carton sealing, box and tray assembling, package gluing, etc. Quick change roller-tips permit guns to be reset in seconds for different striping widths.

Circle 37 on Card, Facing Page 57

## Aluminum Dumping Trailer

A new tri-axle dumping trailer designed to carry 50,000 lb of coal over public highways is now manufactured by Ravens-Metal Products, Inc. This new unit weighs only 10,900 lb, en-

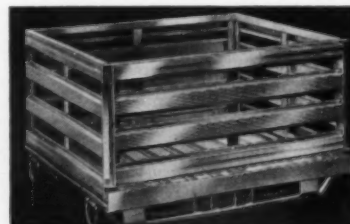


abling it to carry 10,000 lb more payload than conventional steel units. Tri-axle suspension with 12 tires, all-aluminum 34 cubic yard capacity box, and an all-aluminum frame are some of the new features.

Circle 38 on Card, Facing Page 57

## Folding Basket Pallet

A lightweight, rugged, all-aluminum folding basket pallet has been put on the market by the Louisville Metal Products Co. These dual purpose pallets can be used as a container type pallet, or, by folding and locking sides, they can be converted

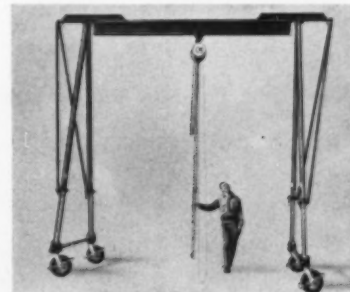


into and used as flat pallets. Whether being used as a basket, with corners secured by pins, or flat, these four-way entry pallets can be moved by hand lift or fork lift truck. These folding pallets are available in a number of standard sizes.

Circle 39 on Card, Facing Page 57

## Portable Gantry Crane

B. E. Wallace Products Corp. is offering a portable gantry crane with adjustable height and tread width. Brace legs may now be attached out-



board for greater clearance. Special I-beam and fittings are available as optional equipment. The unit is ideal for hoisting heavy loads in cramped spaces and has telescoping legs with up to 6 ft of height adjustment. The entire unit folds compactly for hauling or storage. Models are available in spans to 30 ft, heights to 17 ft, and capacity to 4 tons.

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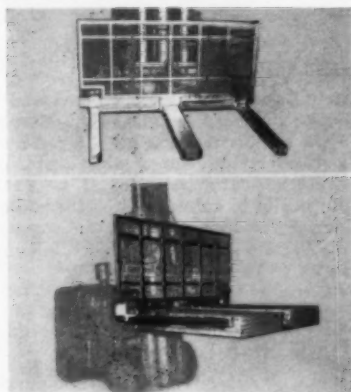


# and EQUIPMENT

PLEASE USE READERS' SERVICE CARD . . PAGE 57

## Package Fork Attachment

A gripper unit that eliminates the need for pallets and saves storage space has been announced by Schmidgall Mfg. Co. Hydraulically operated

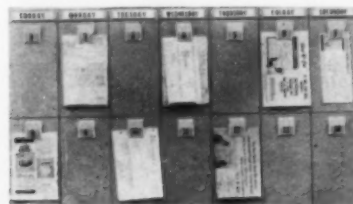


from the seat of the truck, the package fork handles packages as long as 48 in., and in a variety of widths from 24 to 36 in. also 6 to 16 in. Gripper construction is live rubber. Special order units may be specified, varying load width and length maximums and minimums to suit individual need.

Circle 41 on Card, Facing Page 57

## Visual Control Board

A multiple-clip wall board unit for visibly organizing and holding orders, job tickets, route sheets, invoices, shipping forms, etc. has been added

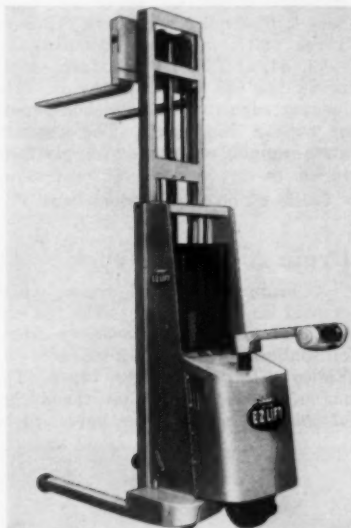


to the line of business system devices manufactured by L. D. Blehart Co. The board is made of lightweight metal and comes with two brackets on the ready for flush mounting, or suspension. Several sizes and styles of boards are available.

Circle 42 on Card, Facing Page 57

## Telescopic Stacker

Crown Controls Co., Inc. expands its line of low cost power propelled lift trucks to include telescopic models. These new models are suited for narrow aisle, light and medium duty applications. They are rated at 1500 lb capacity with 110 in. lifting



height and 60 in. free lift. The walkie models feature three speeds forward and reverse, 24 volt power system, built-in battery charger, floating traction drive, and dynamic braking. Nineteen different power propelled models are available.

Circle 43 on Card, Facing Page 57

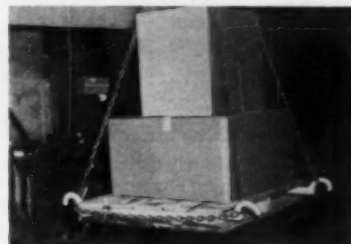
## Fiberglas Window Panes

A tough, maintenance-free sheet of fiberglas made by Alsynite, Div. of Reichhold Chemicals, Inc. eliminates the high cost of window replacement in industrial firms. These sheets of fiberglas cannot shatter or break like glass. The panels, which have built-in color, will glaze any type industrial window, installing just like glass. Translucent, without being transparent, they transmit a soft, diffused light which reduces glare for workers. Available in widths from 8 to 44 in. and lengths of 8 to 96 in.

Circle 44 on Card, Facing Page 57

## Pallet Bars

Calumet Steel Castings Corp. is offering a new product—pallet bars which provide an easier, safer, and faster way for crane handling of pallets. These bars can be positioned under any pallet. Their ability to balance loads and eliminate chain slip-



page ensures safer handling and reduces pallet damage. The pallet bars are constructed of high strength case steel hooks and are welded to heavy walled tubing to provide support capable of handling loads of several tons.

Circle 45 on Card, Facing Page 57

## Loading-Dock Gaskets

A loading-dock bolster which acts as an air seal between the back of a truck and the warehouse's loading door has been developed by C. M. Gibbs Co. This gasket keeps out cold, wind, rain, and dust, and protects



both truck and building from damage. The door gaskets are tubular sausages of neoprene-coated nylon stuffed with shredded polyfoam. They are installed on the doorway with 1½ in. web straps and buckles sewed to the bumper, which are fastened to footman's loops on the building.

Circle 46 on Card, Facing Page 57  
(Please Turn Page)

## New Products and Equipment

(Continued from Preceding Page)

### Packing and Strapping Table

A mobile packing and strapping table for speeding up shipping room operations is being manufactured by Nutting Truck and Caster Co. The table provides mobility and quick, safe strapping of cartons and cases.



The top has six  $\frac{3}{4}$  x 2 in. steel channel members spaced  $4\frac{1}{2}$  in. apart for passing steel strapping beneath cases and cartons. Rocker-type steel angle frame permits easy load discharge. All welded construction with cross bracing provides rigid, maintenance-free operation.

Circle 47 on Card, Facing Page 57

### Safety Lift Hooks

Unlimited load maneuverability with safety is offered by the new, built-in swivel feature of the heavy-duty safety lift hooks manufactured by Mentor Products, Inc. Used with overhead cranes, the new swivel feature permits dies to be maneuvered 360 deg around the swivel while the attaching bolt remains securely tight-

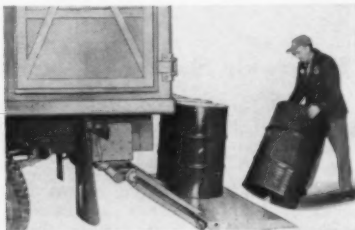


ened. This eliminates the dangers of accidents due to failure of attaching bolts which, in conventional hooks, must be loosened for swiveling purposes. This free maneuvering also guards against fractures and breaks of sling chains and cables against sharp edges of dies. The new safety lift hooks are available in 3, 6, 9, and 15-ton capacities.

Circle 48 on Card, Facing Page 57

### Hydraulic Tail Gate

Another TIE power gate, with a lifting capacity of 1400 lb, has been added to the Daybrook Hydraulic Div., Young Spring & Wire Corp.'s line of hydraulic tail gates for trucks  $\frac{3}{4}$ -ton and larger. It is designed for

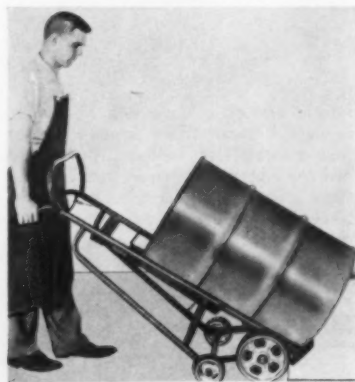


installation on all types of truck bodies, including vans and trailers. Three platform widths are available—72, 84, and 90 in. Platform depth is 28 in. (35 in. with ramp). The loading edge can be furnished square or with a 7-in. ramp. The approximate weight mounted with platform is 600 lb.

Circle 49 on Card, Facing Page 57

### Drum & Barrel Truck

A drum and barrel truck, which is said to make it possible for one operator to easily place heavy drums on pallets, has been announced by Valley Craft Products, Inc. The manufacturer states that the design of this truck allows the barrel to be



carried at pallet height so that in one forward motion the drum can be placed on a pallet with a minimum of effort. Drums can be safely lowered from pallets with this cart. The truck is available with two-wheel safety brakes which give the operator complete control of the load. The main frame of this barrel truck is constructed from heavy steel tubing with a 1 in. diameter replaceable axle.

Circle 50 on Card, Facing Page 57

### Long-Life Battery

A battery has been developed by the Exide Industrial Div., the Electric Storage Battery Co. for light-duty industrial trucks, personnel car-



riers and other small electrically powered utility buggies. This 6-volt, 3-cell battery delivers 9 to 30 per cent more electrical energy than automotive-type batteries. Yet it is sized physically to substitute for them. Designed for long power-drain service, the battery has a predicted minimum service life of four years.

Circle 51 on Card, Facing Page 57

### Desk Stand Microphone

A desk stand controlled magnetic microphone with an on-off switch was recently announced by Shure Brothers, Inc. The microphone is designed for mobile and fixed station use. By using the on-off switch on the micro-



phone, the operator can leave the amplifier or transmitter on during operating hours. Although the switch is non-locking, it can be converted to a locking switch by an easily-made internal adjustment. This model can be used indoors or outdoors, and is practically immune to severe moisture and temperature conditions.

Circle 52 on Card, Facing Page 57

## Pallet Truck

A hand operated pallet truck which offers "two feet on the floor" operation at all times is being manufactured by Wright-Hibbard Industrial Truck Co. An all-purpose han-



dle is used to push, pull, steer, raise and even lower the truck. A light squeeze of the handle lowers the lift, and pumping the handle raises it. A safety feature gives a moving operator a means of dropping the load to avoid collisions.

Circle 53 on Card, Facing Page 57

## Pneumatic-Tired Lift Truck

Hyster Co. has announced a new pneumatic-tire lift truck of 6000 lb capacity. The unit is equipped with oil clutch, free-lift upright, and side-



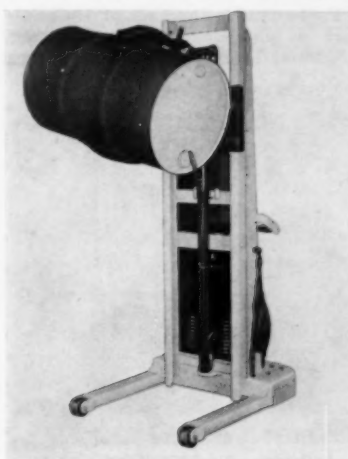
shift carriage. The oil clutch features long life, smooth engagement, and greatly reduced need for maintenance. Oil bath lubrication of friction surface and clutch bearings eliminates overheating and lubrication problems resulting from rough use.

Circle 54 on Card, Facing Page 57

► For prompt service, use postage-free postcard provided to obtain FREE LITERATURE and NEW PRODUCT information described in this issue. All material is FREE unless otherwise noted.

## Drum Tilter

A 360-deg drum-rotating lift truck for low and high-level pouring up to 130 in. is now available from Big Joe Mfg. Co. This lifter, stacker and rotator of drums can handle up to 1000 lbs. It is designed specifically

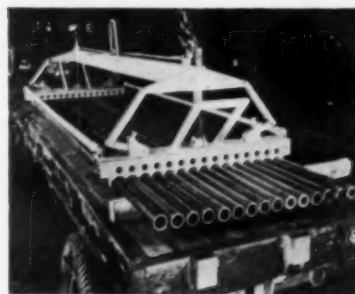


for fast operation in narrow, crowded drum aisles. Pouring is simple, accurate and safe. The tilting-pouring operation is controlled from ground level. Available in a wide choice of lifting heights.

Circle 55 on Card, Facing Page 57

## Pipe Lifter

A new device which lifts 15 lengths of pipe at once is manufactured by the Materials Handling Div. of Hepenstall Co. When the device is positioned over a load of pipe, operation



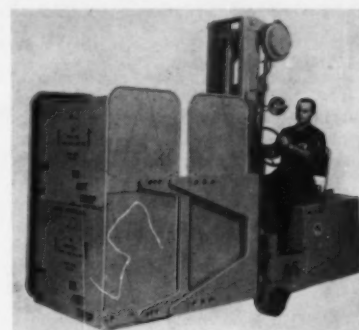
of a lever causes alloy steel finger bars to be lowered, each gripping around a length of pipe. The device already is in use by several trucking firms and is reported to have reduced pipe handling costs as much as 50 per cent in some instances.

Circle 56 on Card, Facing Page 57

## Carton Clamp Attachment

Lewis-Shepard Products, Inc., is introducing a carton clamp attachment which allows palletless handling of fragile containers and bulky materials. The arm design insures equal distribution of clamping pressures

over the entire contact area. High-friction contact surfaces on the plates prevent scuffing. Its use insures rapid

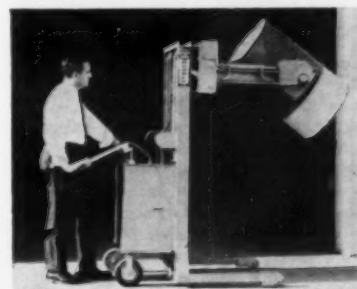


transport, neatly aligned loads and warehouse patterns, increased use of warehouse height, palletless operation and convenient skimming.

Circle 57 on Card, Facing Page 57

## Drum Dumper

Designed for low cost movement, lifting and emptying of drum containers is the new Tubar drum dumper manufactured by Uhrden, Inc. Models designed for high-speed heavy



duty as well as the occasional use operation are offered. All models rotate the drum 180 deg at any point in the lifting range. The new dumpers can be completely powered for travel, grabbing, lift, and dumping. One push button controls all the movements.

Circle 58 on Card, Facing Page 57

## Warm-up Diesel Booster

A manifold air heater has been developed by The Bendix Corp. to be used as a cold-starting aid for diesel engines at temperatures of -40 deg F or lower. The system operates by injecting engine fuel into a combustion chamber mounted on the engine intake manifold in which it is mixed with air and ignited by an ignition unit. The heat from the combustion in the intake manifold brings the temperature of the air up to the proper level for efficient engine compression.

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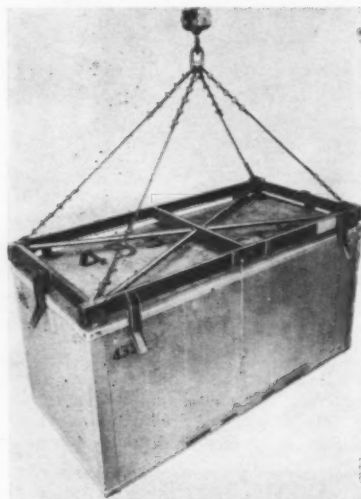


# New Products and Equipment

(Continued from Preceding Page)

## Lifting Spreader

The National Malleable and Steel Castings Co. has a new lifting spreader for semiautomatic-manual operation with their Speedloader sys-

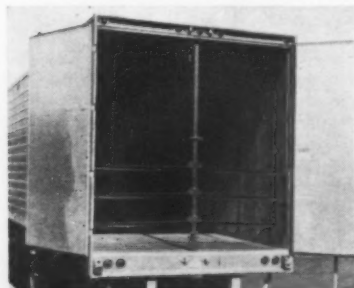


tem of containerized cargo handling. This unit could be adapted to warehouses, truck terminals, or in other installations where small freight volume may not warrant a fully automatic cargo container handling system. The spreader incorporates automatic coupler latches that engage pockets in the container corner castings. All four latches are released manually by means of one lanyard. The spreader and container are lifted by crane, cable hoist, block and tackle, or other device.

Circle 60 on Card, Facing Page 57

## Trailer Door Protector

The Rail-Trailer Co., a piggyback service firm, is offering a trailer

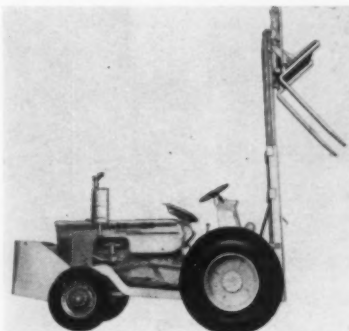


Dorsaver which can be used to prevent trailer door damage in the event of shifting cargo.

Circle 61 on Card, Facing Page 57

## Tilt Fork Attachment

Faster, safer handling of materials such as pipe, logs, cut lumber, and oil drums is claimed for a new fork

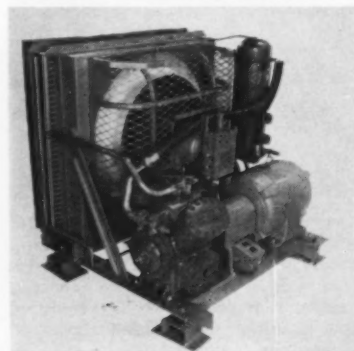


lift attachment made available by J. I. Case Co. Attachment permits forks to be tilted back 10 deg above horizontal and forward 50 deg below horizontal. The attachment enables the operator to discharge loads without changing mast position, simply by tilting forks forward. Lift capacity with 15 in. load centers is 4000 lb to 14 ft, 2500 lb to 21½ ft. Total weight of the basic attachment is 700 lb.

Circle 62 on Card, Facing Page 57

## Reefer Car Unit

A high-capacity mechanical refrigeration assembly with easy-to-service features has been developed by Carrier Corp. for use in railroad reefer cars. A separate motor and compressor permits quick replacement of either of these working parts. In-

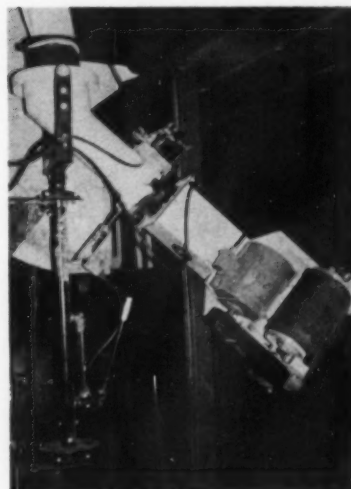


stallation and servicing is facilitated by easily-disconnected, self-sealing couplings which eliminate the need to dehydrate the system before it is put back in operation. The unit is designed to operate between -10 deg F and 70 deg F and the compressor is driven by a 15 hp electric motor that lowers temperatures rapidly.

Circle 63 on Card, Facing Page 57

## Bulk Material Handler

The Conveyor Div. of Finco, Inc. is offering a modern centrifugal-action, bulk material handler. It is designed to handle practically all dry

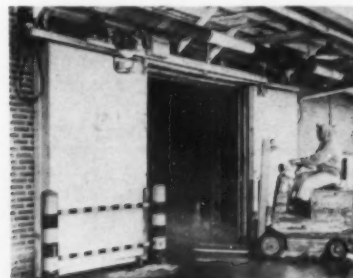


bulk materials, and utilizes a short, high-speed rubber belt to increase the velocity of falling material in the feed-spout. As the belt flexes over a pulley, material is flung in a compact stream accurately as directed, and with less than the expected amount of dust. The unit is available in four styles and nine different models.

Circle 64 on Card, Facing Page 57

## Cold Storage Door

A lightweight cold storage door has been developed by Clark Door Co. Made with 26 gage steel skin and using Nopco Lockfoam as a core material, the door has had wide acceptance in cold storage warehouses and frozen food industries. The insulation, a urethane plastic "foamed in place" system, is poured into the door



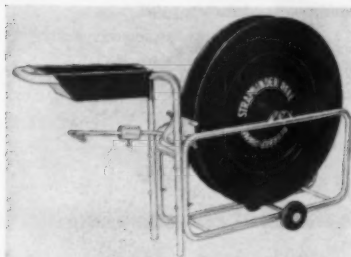
cavity as a liquid. Expanding as a result of chemical action, it pushes firmly against all sides of the door cavity and into all corners of the unit before setting up into a rigid cellular mass. The foam is impervious to oils and greases, fire resistant and rot-proof, fungus and mildew proof. The combination of steel and foam has produced a door panel that is light, flat and strong.

Circle 65 on Card, Facing Page 57



## Mobile Strap Dispenser

A. J. Gerrard & Co. has a mobile steel strap dispenser that eliminates lifting of heavy coils and requires little effort to move. The new dispenser handles  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and  $\frac{1}{4}$  in. wide vibrated wound flat strapping



and all sizes of oval steel strapping. The unit consists of a tubular steel frame and reel mounted on two wheels. Dispenser is  $10\frac{1}{2}$  in. wide and is designed for easy handling in narrow aisles.

Circle 66 on Card, Facing Page 57

## Spray Roofing Method

A new cost-saving method of applying roofing to flat and free-form surfaces was announced by The Flintkote Co. A special gun jet installs roofing via the spray method in a single time-saving operation rather than by the conventional method of building up layers of roofing. The company states that a three-man crew using the gun can install between 15- and 18,000 sq ft of material a day compared to 8000 sq ft with a five-man crew utilizing conventional methods.

Circle 67 on Card, Facing Page 57

## New Dump Trailer

This dump trailer body, using 1-in. "V" corrugations, is designed by Gallion Allsteel Body Co. for maximum legal payload with lightest possible empty weight. A completely boxed top roll section provides protection



against side spreading at any stage of the dumping cycle. The units are designed for use with full frames to provide stability and maintain the high spill point for stock-piling and spreading operations. Available in standard lengths of 16 to 28 ft with a capacity range of 10 to 35 cubic yards.

Circle 68 on Card, Facing Page 57

## Literature from the Advertisements

Listed below are brief descriptions of catalogs, brochures, booklets and other literature offered by advertisers in this issue of DISTRIBUTION AGE. To get your copies of the items offered, simply circle the appropriate number on the Reader Service Card, facing Page 57.

### You're Protected Automatically

If you are an American District Telegraph Co. client you're automatically protected against fire, burglary, holdup, other hazards. Learn all about depth inspections. Circle No. 8.

### Speed Order Picking Operations

For faster order picking operations, Automatic Transportation Co. designed its new three-in-one tractor to act as remote control, walkie, or rider-type aide. Learn how to speed order picking with transistors. Circle No. 12.

### Metal Buildings Factory Insulated

You can make it, store it, or sell it inside a Butler Manufacturing Co. building. Colors and effective insulation are applied at factory—no post erection worries. Incombustible too. Circle No. 3.

### Caster Mobility for Your MH

Pallet trucks from Colson Corp. are built on a firm base of casters and wheels. The 2500 and 4000-lb capacity single and double face pallet trucks have special entry device for smooth loading. Circle No. 2.

### Rate, Routing Information Center

Consolidated Freightways, serving coast to coast, has a special information center. It furnishes any type of rate and routing information not available locally. A letter, 'phone call, or TWX will reach it. Circle No. 13.

### Battery for Small Lift Trucks

Exide makes a battery for small industrial trucks and personnel carriers. And the TG Super gives 11 per cent more power without any size increase. A new team for maximum battery power. Circle No. 6.

### Tire Analysis Can Save Money, Time

Don't waste time and money by thinking all tires are the same. A talk with a B. F. Goodrich tire and wheel analysis man can put you on the road to new savings. Match tire to job required. Circle No. 4.

### Dock Operating Efficiency

Permanent installation of automatic performance is what you get with dockboards by Kelley Co., Inc. Free kit helps you plan a profitable dock operation. Circle No. 5.

### Power Unit is Interchangeable

Lift Trucks, Inc., builds its Dyna-Dual power unit so that it is interchangeable on all models. Twin drive wheels claim less than half steering effort compared to one wide drive wheel, Lift Trucks says. Circle No. 7.

### Mobile Loading Ramps

Mobile loading ramps by Magline, Inc., go where you go to provide a loading dock where you need it. Bulletin tells how to solve ground-level loading problems. Circle No. 9.

### Magnesium-Light Dock Boards

Difficult dock problems can be solved. You may be able to correct your high coating dock loading problems with the bulletin available from Magline, Inc. Circle No. 10.

### Terminal Chart for Your Wall

Handy new wall chart from McLean Trucking Co. gives points served to and from your nearby terminal. It's map-like for easy, accurate use. Circle No. 14.

### Walkies and Small Riders

Both walkies and small riders are made by Motor-Truc Co. Records of on-the-job costs point up some new advantages. Catalogs show small riders and walkies, give full details. Circle No. 1.

### Go Piggy-Back from North to South

Seaboard Air Line Railroad's piggy-back service on both sides of the Mason-Dixon line can help cure your transportation headaches. Facts can be yours, just ask. Circle No. 15.

### On Call to 30,000 Markets

Spector Freight System, Inc., is on call to 30,000 markets. Comprehensive authority is one of 16 services described in new Spector Story brochure. Circle No. 16.

### Hydraulic Pallet Truck

Up front, down under, over-all are built-in advantages at Stokvis Multiton Corp. Built into every hydraulic pallet truck. All with a six month warranty. Circle No. 11.

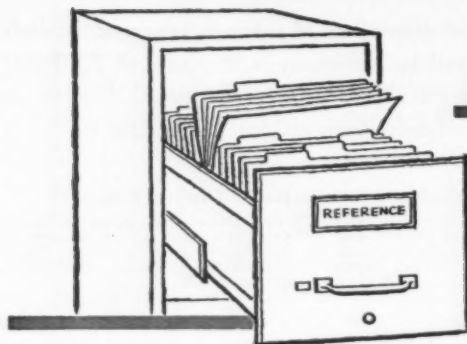
### San Francisco Bay Area Property

The Western Pacific has choice warehousing, distribution, and manufacturing sites for sale in the San Francisco Bay area. Good spots in northern and central California are available too. Circle No. 17.

### Compact Gas Fork-Lift Trucks

You get compactness, speed for faster, safer operation cycle from Yale's G54 series gas trucks. Controlled lowering speed ranges from 55 to 80 fpm with self-adjusting brakes. Circle No. 18.

# DISTRIBUTION AIDS



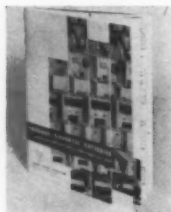
- Catalogs
- Specifications
- Directories
- Case Studies
- Reports

## How To—With Fasteners

Navan Products, Inc. is offering its new booklet on the many uses for Klimp fasteners. How to use them, how to design and fabricate panels, how to assembly panel boxes, how to plan and use modular panels, how to specify material standards, how to design crates for Klimp fasteners, how to specify standard pallets for Klimp fastener application are described and illustrated.

Circle 69 on Card, Facing Page 57

## Electric Battery Data



A 10-page illustrated brochure on the compact Yardney Electric Corp. Silvercel secondary batteries has been issued. It describes the physical, electrical, and typical

application characteristics of these rechargeable batteries, which come in two types: high-rate for complete discharge in less than an hour and low-rate for discharge rates longer than an hour.

Circle 70 on Card, Facing Page 57

## Freight-Handling Analysis

The combination of a terminal freight handling analysis form and a one-man-crew booklet that enables an engineered approach to solving dock layout problems plus a system of utilizing one man as a stripper-checker and loader is offered by Lewis-Shepard Products, Inc. A four-page analysis asks the questions that will provide the handling and specification data necessary for the complete picture of your dock operation and an eight-page analysis describes a system where each employee works alone for increased productivity and more flexible operation.

Circle 71 on Card, Facing Page 57

## Automatic Switching Cart

Operation of a fully automatic, mechanically controlled cart-handling system for tow line conveyors is outlined in a folder prepared by SI Handling Systems, Inc. The cart automatically dispatches itself to its destination and switches off of the tow line.

Circle 72 on Card, Facing Page 57

## Conveying Equipment Report

The Rapids-Standard Co., Inc. offering a field report which tells how a large hardware wholesaler with a stock of more than 334,000 different items solved stock handling problems through installation of a materials handling system.

Circle 73 on Card, Facing Page 57

## BOOK

### Management Organization

"Organizing Trucking Management," a new book containing the findings of the Ninth Annual National Forum on Trucking Industrial Relations, has been published by the American Trucking Assns.

The 235-page book dwells on the organization of trucking companies, their departments and divisions, and covers all phases of trucking management.

Issued by the ATA Industrial Relations Department, it includes practical ways and means of clarifying objectives: methods of dividing and assigning managerial responsibilities and the desirability of keeping organizational plans up to date.

The book is priced at \$9.75 and can be obtained through the ATA Industrial Relations Department, 1424 16th St., N.W., Washington 6, D. C.

## Refrigerating System

A full description of how fluctuating freezer temperatures, caused by variations in product-load, ambient outside temperatures, or heavy traffic, are held to  $\pm 1$  deg F automatically in a new warehouse is being offered in the form of a technical report from Freezing Equipment Sales, Inc. The report explains how the refrigeration problem at Central Warehouse Corp., Albany, N. Y., was solved by a system of two rotary and two reciprocating compressors which automatically step down capacity from full-load—four machines on, to no-load—four machines off, through capacity reduction and partial shut-off.

Circle 74 on Card, Facing Page 57

## Destination Arrival Guide

Alitalia Airlines is offering its revised air cargo international destination arrival guide for air shipments departing from New York, Boston, and Montreal.

Circle 75 on Card, Facing Page 57

## Mobile Crane Catalog

Information about their 15-ton mobile crane, which can be easily converted to a  $\frac{1}{2}$ -yard clamshell or dragline, is given in a 12-page catalog prepared by Unit Crane & Shovel Corp. One engine powers all functions, and one man controls and operates the self-propelled, rubber-tired machine.

Circle 76 on Card, Facing Page 57

## Industrial Fire Hose

An informative bulletin on the properties of industrial fire hose is offered by Technical Service Section, Textile Fibers Dept, DuPont Co. It contains case history material on the performance of fire hose jacketed with 100 per cent Dacron polyester fiber at chemical and petroleum plants.

Circle 78 on Card, Facing Page 57

For prompt service, use the postage-free postcard provided to obtain **FREE LITERATURE** and **NEW PRODUCT** information described in this issue. All material on these pages is **FREE** unless otherwise noted.

## Operator's Guide



which eliminates clutch, transmission, differential, drive line, and shifting mechanism. Loading, stacking, and safety tips, as well as new lift accessory data, are covered in the illustrated manual.

Circle 83 on Card, Facing Page 57

**Towmotor** Corp. has revised its pocket-size Fork Truck Operator's Guide. It includes complete information on Towmostatic Drive, the new foot-controlled power application

## Gummed Tape Machines

Information on its complete line of gummed tape sealing machines and label moisteners can be found in the new **Seal-O-Matic Dispenser Corp.** catalog. It outlines each product in the line along with technical specifications and prices.

Circle 84 on Card, Facing Page 57

## Site Selection Folder

"San Francisco—Western Business Headquarters" is the title of a two-color folder prepared by the Domestic Trade Department of the **San Francisco Chamber of Commerce**. It is part of a program to maintain a high rate of occupancy of the city's many new office buildings. The folder also describes labor-management relations in San Francisco.

Circle 79 on Card, Facing Page 57

## First Aid for Poisoning

If a member of your family accidentally swallowed cleaning fluid and was in severe pain, what would you do? The **American Medical Assn.'s Committee on Toxicology** has prepared a card which gives pointers on first aid treatment for poisoning. The card is designed so that it can be placed inside a medicine cabinet door for quick reference in emergencies.

Circle 80 on Card, Facing Page 57

## Tray Elevator Booklet

**Lynch Corp.** has released an on-the-job case history explaining how one company utilized the **Robo-Lift** tray elevator to move cartons vertically, saving time, money, and floor space. It enabled engineers to place carton sealing operations just beneath the ceiling. Completely automatic, the tray elevator runs trouble-free and requires virtually no maintenance.

Circle 81 on Card, Facing Page 57

## Fluid Power Users Catalog

**Anchor Coupling Co., Inc.** has a new catalog which describes and illustrates step-by-step procedures for assembling various types of couplings to hose. It also contains a complete line of reusable hydraulic couplings, hose and fittings, together with application data, specifications, engineering recommendations.

Circle 82 on Card, Facing Page 57

## FILM

### Longest, Permanent Conveyor



The world's longest permanent transport belt conveyor system,  $5\frac{1}{2}$  miles in length, is the subject of **Link-Belt Co.'s** new 16 mm. sound and color, 22-minute motion picture entitled "Ideal Transport Story."

The film shows all phases of construction of the unique, new conveyor system from survey and site clearance through operation—including interesting shots from the air. The all-weather conveyor winds through the Oklahoma countryside in the shape of a giant letter "S" carrying limestone and shale at the rate of 1000 tons an hour.

The film may be borrowed without cost on letterhead request for showing in the U. S. A., from **Link-Belt Co.**, Dept. PR, Prudential Plaza, Chicago 1, Ill.

## Portable Lift

Literature on a new portable lift manufactured by **Port-A-Lift Co.** is being offered. Flexibility, light weight, and low maintenance cost are important features. The frame is fabricated of structural and machine steel and the lifting unit is a hand winch with a load actuated brake. The brake automatically holds load when handle is released. Maximum capacity is 1000 lb.

Circle 85 on Card, Facing Page 57

## Lift Truck Bulletin

A new eight-page catalog covering the "F" series lift trucks in the 3000, 4000, and 5000-lb capacity ranges has been prepared by the **Engine-Material Handling Div., Allis-Chalmers Mfg. Co.** It is complete with pictures and illustrations telling the design, engineering, construction, and operating stories of this new series.

Circle 86 on Card, Facing Page 57

## Foreign Trade Service

**Interstate Motor Lines, Inc.** has prepared an interesting booklet showing the savings possible through consolidation and containerization of commodities on foreign shores. How to take advantage of savings in packing, damage, pilferage, and handling, but enjoy the difference between the ltl and volume rates from the U. S. port of entry to final destination is explained.

Circle 87 on Card, Facing Page 57

## Warehouse Layouts

An informative 8-page booklet on warehouse layouts giving the advantages and disadvantages of narrow and wide aisles is being offered by **Automatic Transportation Co.** This brochure is designed as a guide to material handling engineers who are trying to decide which type of warehouse is best for his needs.

Circle 88 on Card, Facing Page 57

## Industrial Truck Folder

An illustrated 4-page folder gives highlights on the 5000-lb capacity industrial truck manufactured by **Elwell-Parker Electric Co.** A carbon-pile speed control acts to give the operator smoother, more precise control. Diagrams, photographs, and a detailed analysis of each important working part are provided.

Circle 89 on Card, Facing Page 57

## Truck-Dock Planner

A free kit for planning truck docks has been prepared by the **Kelley Co., Inc.** Entitled "How to Plan a Profitable Truck Dock Operation," it consists of booklets on dock design, levelation, modernization, and safety.

Circle 90 on Card, Facing Page 57



# the Sign



**Dependable  
Freight  
Transportation**

*"Everywhere West"*

**CHICAGO, BURLINGTON & QUINCY  
RAILROAD**

## A systems approach . . .

(Continued from Page 35)

tribution patterns. Chart II presents the elements of the total warehousing system.

The total warehousing system is comprised of two major groups of activities—handling and storage functions and merchandising functions. Included among the handling and storage responsibilities are warehouse location, storing, receiving, consolidation, breaking bulk, handling, packaging, marking, order processing, shipping and delivery, and billing. The merchandising aspects include display, selling, financing, credit, and grading.

Distribution executives are concerned with the integration of storage, handling, and merchandising functions to achieve the optimal warehousing combination. It is in this context of a planned and integrated facility that the warehouse is considered to be a distribution center. Through the use

of mechanical equipment, automatic data processing, and by coordinating warehouse-related activities, more effective systems of distribution are being achieved.

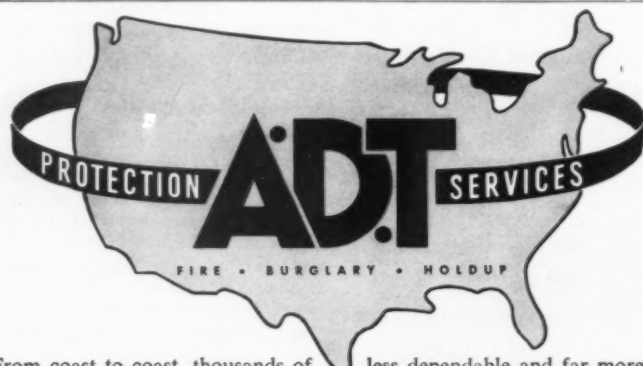
### Distribution System

To obtain optimal efficiency in physically distributing goods, it is necessary to coordinate all of the company's transportation and warehousing activities. These should be grouped under the authority and responsibility of a major executive. This is the domain of the executive in charge of physical distribution.

The physical distribution manager should be charged with the spatial arrangement of plant capacity and distribution facilities. These two aspects of company operations are linked by transportation systems. As a result the physical distribution manager is concerned with coordinating and combining all aspects of storing, handling, and transporting goods in the most profitable manner.

Essentially, physical distribution as a system has two major sub-systems—the total transportation system and the total warehousing system. This is shown by Chart III.

Under the physical distribution concept, all of the elements of both systems are to be combined



From coast to coast, thousands of industrial, commercial and institutional establishments have discovered the economy of using ADT automatic protection to safeguard life, property, and profits against fire, burglary, hold-up, sabotage and other hazards.

The leader in automatic property protection, ADT manufactures, installs, maintains and operates the most modern protection systems available anywhere. ADT electric and electronic systems are specifically designed to provide maximum security at lowest cost. Thousands of ADT subscribers enjoy substantial savings over other,

less dependable and far more expensive methods of guarding their properties. At the same time, they are assured of the most reliable protection available.

ADT central stations are located in principal cities. In other areas, ADT systems may be connected directly to police and fire departments. These systems are fully maintained and regularly tested by ADT specialists.

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A NATIONWIDE ORGANIZATION

Circle No. 8 on Card, Facing Page 57, for more information



## CLASSIFIED ADVERTISING

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DISTRIBUTION AGE



to achieve the most efficient over-all system of distribution. This is one of the primary responsibilities of the dm. Clearly the scope of these activities lies well beyond the boundaries suggested by the title "traffic manager."

What do these ideas mean to transportation management? What will the management consequences be for companies adopting the systems approach?

Essentially, these developments emphasize that transportation management has come to recognize that a hierarchy of systems exists in business. First, the company is regarded as a total system of business action—the primary management system. Its purpose is to integrate the production of men, materials, money, machines, and management—whether used for transportation, production, marketing, finance, or other functional purposes, to maximize company profits.

There exists an over-all business system within which transportation and other physical distribution functions take place. This system sets primary limits upon transportation decisions and objectives. It is within the system that the sub-system of physical distribution must operate.

The second implication is that physical distribution is but part of a larger marketing sub-system, which in turn is part of the broader business system. Other components of the company's marketing sub-system are: channels of distribution, pricing and credit, service and product policies, and advertising and selling programs. Decisions concerning physical distribution should be made in terms

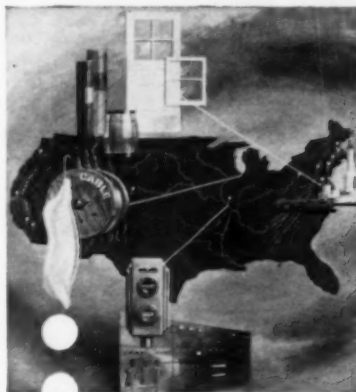
of their impact on other elements of the marketing system.

Third, the physical distribution sub-system in turn has two major components: The total transportation system and the total warehousing system.

Fourth, the company embracing the systems approach to the solution of distribution problems should benefit because:

- Physical distribution assumes an integral position in contributing to the company's over-all profit and efficiency.
- Various aspects of transportation and warehousing activities are coordinated for maximum efficiency.
- Physical distribution decisions are brought into line with the major objectives and policies of the firm.
- The scope and functions of "transportation" executives are broadened to include all of the major activities involved in physically distributed goods.
- Physical distribution is recognized as an important company activity in the organization structure. •

(Resume Reading on Page 36)



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reaches it...

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via the go-how people,  
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**A NEW DA SERVICE—Pages 41 to 56 of this issue have been perforated for easy tearing out . . . A letter from you will help the editor decide the value of this service**

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choose



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because it's **national**  
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KANSAS CITY, MO.  
WALLINGFORD, CONN.  
NEW YORK, N. Y.

## ... Problems

(Continued from Page 37)

sultants determined the number of items required to maintain a 30-day supply for each part. The 30-day supply was to constitute forward stock, ready for immediate distribution.

To provide the purchasing function with the necessary time to reorder parts, a 60-day quantity of each part was established as reserve stock. Each item in reserve stock is located in an area immediately adjacent to the corresponding part in the forward stock.

Stock in excess of forward and reserve inventory requirements was moved to a third location farther removed from the forward stock. This was identified as warehouse stock.

The sales study also revealed that 75 to 80 per cent of Maytag's total parts volume was made up of 352 items. These parts were scattered throughout the warehouse. On an average order of 52 differ-

ent items, the order filler walked 2080 ft. More than three hours were required to fill the average order.

To decrease the walking distance and speed the rate of order filling, the fast moving parts were consolidated into a compact area. Over-all walking distance was drastically reduced. A new preprinted order form was devised that listed the parts according to bin location.

For the average part, reserve stock is moved into the forward area about once every two weeks. If a part starts moving faster in a peak-load period, the weekly check still insures that parts inventory control will be notified in ample time to authorize the purchasing of additional stock or have stock moved in from the warehouse area.

Several of the former order fillers and checkers have moved into a new pre-packaging operation which guarantees fast handling of bulk-part orders. The previous review of sales records also furnished information on the average quantity of parts sold at the various levels. This was used to determine the number of fast-moving parts that could be economically pre-packaged, to avoid mass counting of individual items.

For example, item 14718—"shoe for drain," priced at 10 cents—formerly was stocked as individual parts in open bins. This is a fast-moving part. Some orders from distributors for this part ran as high as 5000. This meant that when 5000 of item 14718 were ordered the filler had to stop to count out 5000 separate parts. This quantity was then recounted by the order checker, who then packaged the part. When the package was received by the distributor, it was opened and recounted into another bin. It remained in the bin until a dealer ordered 50 of the part. Then 50 shoes for drains were counted out and sent to the dealer, where they were received and counted again.



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**WRITE TODAY FOR BULLETIN DB-211**

Magline Inc., P. O. Box 239, Pinconning, Michigan



**MAGLINER MOBILE LOADING RAMPS**

Circle No. 9 on Card, Facing Page 57, for more information

### Quantities of Ten

A study of the sales of part 14718 revealed that dealers ordinarily ordered the part in quantities of 10; distributors, in quantities of 100. Parts were prepacked

DISTRIBUTION AGE

in quantities of 10. Then 10 packages of 10 are placed inside another, larger package. The packages of 100 also are combined into packages of 500. An order of 5000 now may be handled by counting out 10 packages of 500 each, instead of 5000 separate items. Furthermore, all packages are certified and checked in the packaging area.

When the distributor receives an order for 50, he need count out only five packs of 10. By packing proper quantities in the warehouse, the company does not have to go through the packaging process anywhere else in the distribution system.

Newton is the focal point for all Maytag parts distribution, including the brand and jobber warehouses. Therefore, this prepackaging of fast-moving items has facilitated parts handling and eased inventory control throughout the distribution area.

All internal prepackaging operations are competitive with outside firms. If a manufacturer or independent packaging agency can package parts at less than the internal group, the outside firm receives the business. This helps maintain peak efficiency in internal packaging operations.

The remaining two former order fillers and checkers now fill items from the "original package" area. The preprinted order form that lists fast-moving items identifies parts with an asterisk that are prepackaged.

When an order is received at the warehouse office, shipping labels are stenciled for all prepackaged parts before the order is turned over to the fillers. The labels carry the proper identification of the organization to which the parts are being shipped, plus the item number and abbreviated part nomenclature.

All labels and the original order are perforated with a code. The orders go to the bin area. Labels are sent to the original package area. The code perforations inform the order fillers of the proper shipping area and the time the order is to be in the shipping area.

The original-package order filler simply pulls the quantity of packages from the shelf and affixes the label. Specially-designed equipment moves them directly to the ship-

ping location designated by the code.

Order fillers follow streamlined routes designated by the preprinted order form and sorted labels. All bin items are placed on a custom-made shelf truck in order. All originally packaged items are placed on trucks in numerical order in which the labels are sorted. This facilitates the work of the shipping assembly checker, who again uses the preprinted order form to speed his work.

The individual parts are then packaged in an area immediately behind the checkers. Bills of lading list the various shipping classifications to insure that the parts are grouped in packages that will be shipped at the most economical rate.

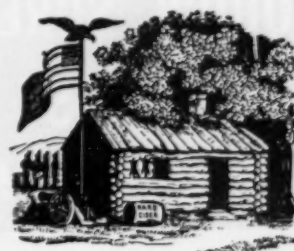
The packages are then routed by conveyor belt to the proper shipping station. All shipping stations are numbered. Half are used for parts being shipped by truck; half for parts being shipped by rail.

Maytag now is assured of up to one-day handling of orders instead of the two-week handling that sometimes occurred previously. The system has balanced inventory stocks, reduced excessive quantities, and provided immediate indication of stocks which are being depleted rapidly.

The supervisor of parts orders and inventory, has had his entire operation moved from the service department to the product and parts distribution department at the warehouse. By placing parts orders and inventory control as well as warehousing functions under the general manager, products-parts distribution, Maytag now has someone who has control of the order from the time it is received until the parts are on the shipping dock.

For the first two years, Maytag will completely review its system every six months. This work will be done automatically with electronic data processing equipment. The check will make certain that all warehouse personnel—especially the stockmen—know and are performing their jobs with a high degree of accuracy. After this two-year period, the warehousing program will be reviewed annually. ●

(Resume Reading on Page 40)



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## Getting top performance . . .

(Continued from page 40)

such rewards are understood by the staff personnel themselves. Making a little extra effort to outline these clearly so that they will reach the understanding of everyone is assurance that this important factor is never overlooked.

Established responsibility — up and down the line. Too often the executive assumes responsibility entirely on his own. Therein he errs seriously. The successful completion of the job or assignment calls for responsibility all the way. Make certain the staff understands this and has the direct elements of responsibility involved (insofar as each is individually concerned) made clear to them.

### Equal Advantage

Make sure your advantage does not exceed theirs. "Why should I knock myself out on this—it may mean a bonus to him but nothing for me!" We've heard that one—in fact at some time in the past you and I have both probably said that about the same thing. Whenever the action called for has definite advantage to our own welfare it pays to play that factor down as much as we can and place every bit of emphasis on the big advantages to the individual instead.

When sub-dividing the group into "teams" be careful to pair "likes" together. Many group efforts fail miserably because the man in charge planned them so poorly success could not have been achieved under any circumstances. Good planning calls for making certain, when the assignment is sub-divided, that individuals congenial to one another are paired. The man who distinctly dislikes the talk or mannerisms of another individual isn't going to be very successful working with him on any task.

Recognize differences from man to man. Just as we must keep in mind the point mentioned in the above paragraph, so also must we plan with the understanding that no two fellow humans are made just alike or have equal abilities. Plan the program with

this in mind and it will have a much greater chance for success.

Forget about "volunteers." One of the first points presented by any executive is that he never builds a group effort or program on the assumption that he will receive voluntary effort from the men and women therein. There will be a little of it, but the amount will be so small the program is doomed to certain failure if we depend on it for success.

### Workable Goal

The goal must be workable—very definitely insofar as each individual staff member is concerned. We human beings just have no heart toward extra effort when the end goal seems impossible or impractical to us. While this seldom applies in routine matters it is very often a point to be given careful consideration on anything new which may be on the schedule.

Keep "time and convenience" in mind. The time the individual has to perform his part of the assignment as well as his regular routine duties must always be considered.

Instill competition within the group. Competition always produces more results. It gives one (as a member of the team) an extra incentive to put forth added effort.

### Progress Reports

Establish progress reports. They help to keep interest alive and add a continuing spur to more and better effort. They are a "must" when internal competition has been laid down as part of the project.

After initial pressure, beware—that's where the letdown can come. Such a letdown can cause the program to fail within sight of its goal. Remember also that routine work may possibly suffer thereafter unless part of the planning has devised a method to return to smooth performance of regular routines. ●

(Resume Reading on Page 41)



## Is the wooden pallet . . .

(Continued from Page 43)

It then describes how automobile tires were stored in a collapsible wood compartment and continues: "Adding a combustible pallet to a stock of combustible tires or cartons undoubtedly contributes fuel to the fire which may occur. The gain in stability must be weighed against this fact. "Fire tests have been run to determine the effect of a combustible, horizontal baffle in a stack of tires and the results showed considerable promise. Fires in piles of tires without pallets were extinguished with greater difficulty than fires in palletized stacks. With tests using automatic sprinkler protection, it was found that the water spray quickly extinguished the flames above the pallet.

"Below the pallet the intensity was reduced and the smoke dissipated sufficiently to permit manual fire fighting operations. It was also found that the amount of water flow necessary to control the fire in the burning pile was

markedly reduced by the presence of the pallet. There is definite need for further study and testing in other types of storage to determine the possibilities of flame travel through the flues formed by pallets and the necessary piling arrangements favoring sprinkler protection."

Presumably, this was written before the tests made at the Factory Mutual Laboratories with fire-stopped and conventional pallets.

Nickerson's statement that "the chief factor contributing to this problem (a serious fire protection problem) is the open wood pallet" is a strong indictment. We have read carefully such details as are available on large loss fires for a considerable number of years. We do not know, of course, in how many of these fires merchandise was stored on pallets, but it does seem significant that we find only one instance—in an outdoor storage yard—where pallets are mentioned as a contributory cause to

the spreading of these fires. Certainly it is safe to conclude that if any pallets were involved in these conflagrations that they were conventional, open wooden pallets.

We also have pointed out that the Factory Mutual Laboratory tests were directed primarily at the problem of how pallet construction affects sprinkler protection. We suggest that when tests are made, the now almost universally adapted 40 in. x 48 in. pallets be used, that cartons filled with various kinds of contents be used in cross-piled rather than block patterns.

As indicated earlier in this article, those of us who are interested in fire-safe storage cannot treat any possibility of increasing the fire hazard lightly. The conventional wooden pallet has certain advantages over firestopped pallets—at least those developed to date. They are cheaper. They are in wide general use and do not present operational problems such as special forks or having to shift forks with changes in the side of entry. Before we make the conventional pallet a "whipping boy" let us be sure that it is properly used. ●

(Resume Reading on Page 44)

## The inside story . . .

(Continued from Page 45)

cases building codes refer more often to time ratings than to flame spread requirements, a few fire retardant paints have established such time-temperature ratings. One excellent product on the market today has thus established a 45 minute ASTM time-temperature rating over a wooden cellar ceiling assembly. It means that under the ASTM standard testing methods, a loaded cellar ceiling, constructed of wooden sub and finished flooring over 2 x 10 wooden joists, stood up for 45 minutes exposed to the prescribed fire source.

The Los Angeles school fire test has proved among many other things the extreme fire hazards presented by acoustical fiber cellulose tiles. This phase of the test, conducted on a school corridor, proved also that with the application of a good Underwriters' rated

fire retardant paint (the product used had a flame spread below 25) this hazard can be cut down considerably. "Operations School Burning" as published by the National Fire Prevention Association, reports "no propagation of flame past the actual area of impingement" on a fire retardant painted acoustical tile. The unpainted tile flashed the full length of the corridor in a matter of minutes.

This test has resulted in new school maintenance specifications throughout the country. Most authorities have asked for a complete removal of these combustible tiles or painting with a fire retardant paint, with a UL flame spread in the range of 0 to 25.

The federal government, in recent years, has specified fire retardant paint having good UL

flame spread ratings, for large projects such as the DEW Line and BMEWS presently under construction in Alaska. The Royal Canadian Air Force has used thousands of gallons of fire retardant paint for the protection of the structural steel in aircraft hangars.

Among industrial users are many warehouse companies and firms maintaining garages and storage sheds. Owners are often pleased about the decorative value they received on a job that started out to be strictly a fire protective measure. The superintendent of a large maintenance garage, a wooden millwork structure, reported that after painting the aged and darkened lumber work of the roof construction with a light colored fire retardant paint, his maintenance crews were able to work without artificial lighting on engine repairs underneath.

There has been criticism in the past about conventional paint  
(Please Turn Page)

## The inside story . . .

(Continued from Preceding Page)

qualities lacking in some of the fire retardant paints. Recently great improvements have taken place. Some of the better fire retardant paints now combine washability and even scrub resistance with excellent flame spread ratings. Most finishes of the better rated products are flat and might therefore not be too cleansable. One manufacturer has solved this problem by creating a semi-gloss, highly cleansable and scrubbable overcoat over his basic flat coating, to be used in areas where it is desirable.

Fire retardant paints on the market today, especially the ones in the better rating brackets, are higher in price than ordinary paint, which is easily understandable. They range from 20 to 30 per cent above the price of top grade normal combustible interior finishes. Fire retardant paints should be applied at substantially heavier coverage rates since the degree of protection achieved is in direct relation to the original thickness of the paint film applied (coverage rates and number of coats for each paint are available.

It might be of interest to note that fire insurance rating bureaus have not adopted a uniform ruling on the use of fire retardant paints throughout the country. However, in many states, including the entire Pacific Coast, the fire insurance schedule provides for reduction in rates or removal of so-called penalty charges when fire retardant paint, having certain UL flame spread ratings, is used to reduce the existing hazard.

To sum up, the advent of true fire retardant paints is an important development in the continuous fight to reduce this country's enormous fire losses and they deserve thorough consideration from all those in charge of safety.

(Resume Reading on Page 46)

## New center fills . . .

(Continued from Page 50)

tickets are read and keyed into an electronic "memory control" at a rate of up to 60 trays per minute.

From this point, the trays travel around the loop past a group of "tote pans" in which the several items comprising an individual order will be assembled. As a particular tray, carrying article for Order X, reaches the Order X tote pan the electronic control causes the tray to tip. The package drops into the pan.

In this manner all of the articles for Order X will have arrived and been deposited in the proper pan within 15 minutes. The preceding description outlines a single line sorting process. With four such sorting processes in operation, as many as 400 orders containing up to 3600 items can be assembled in 15 minutes.

### Order Checked

At the end of the 15 minute period, the tote pans which have been filled with orders are moved out on conveyors into a checking area. Each order is carefully checked against the invoice to see that it has been properly filled.

At the same time empty tote pans are moved into position around the

sorting loop. Then another picking and sorting cycle begins. In this way, order processing proceeds without delay.

After the orders have been checked, they travel on conveyors to the packing area. Here they are removed from the tote pans, packed in shipping containers, and released to the shipping area. The tote pans, meanwhile, return on conveyors to the sorting area where they are stored awaiting a new cycle.

The entire cycle of processing from the time the pickers place the packages on the belt conveyors to the time that the packages are removed from the tote pans at the packing tables, takes place on automatic conveyors. There is no manual handling.

### Shipping Area

When the shipping containers reach the shipping area, they are directed manually to three sets of conveyors. One is for parcel post. One carries express. The third takes over-the-road truck shipments. At the same time, any necessary papers, such as postage, express way bills, etc., are added to the shipping containers.

The conveyor line carrying express shipments runs directly through the shipping department. It ends in an express trailer spotted at one of the eight loading docks. The unnecessary labor of rehandling express packages in the shipping department thus is avoided.

Parcel post items are deposited in parcel post hampers and trucked to the post office. Over-the-road truck shipments are accumulated in the shipping department according to truck line. Later they are transferred to trucks as they arrive.

In the W section the processing of orders is simpler than that described above. The items are fewer in quantity, they do not require intricate electronic sorting, and they are packed in their own shipping containers.

The W section has its own receiving dock of ten truck spots. As the merchandise is unloaded from the trucks, it is placed on wooden pallets. After being checked, each package is marked with a stock number. The merchandise then is transferred by tractor train or fork truck directly to the pallet racks. Individual packages are removed from the racks to fill orders.

As the items are "picked" to fill orders, they are placed on take-away belt conveyors. They are transported to the same shipping

department as the A merchandise. Here, they, too, are separated into parcel post, express, or truck shipments. If an individual order included both A and W merchandise, the two parts of the order are combined in the shipping department. In this way the customer will receive his entire order at one time.

The present processing capacity of the distribution center is approximately 1600 orders per hour.

Basic to handling of the tremendous quantity of items arriving and leaving by truck and rail is the fleet of 16 electric trucks.

The electric tow-truck operates without human guidance. A wire in the concrete floor guides the tow-truck and train in a prescribed path reaching 16 stations. The dispatcher selects the station at which the train will stop. A horn blows when the train arrives and an attendant uncouples the cars destined for that station.

Material is palletized and placed in racks by electric outrigger trucks.

Charging of batteries and battery maintenance is given careful attention in two battery shops—one in the A section and the other in the W section.

In the larger battery shop (Section A), there are twelve charging stations using silicon rectifiers. The chargers are mounted on pallets placed on a steel frame off the floor. Batteries are placed on skids on the floor underneath the charger. Batteries are moved by a fixed monorail and by a straddle-type electric truck.

Although some batteries are charged in the trucks overnight, most are removed. Most of the fleet has two batteries per unit to permit two shift operation.

The battery room attendant puts a charged battery in the truck and places the discharged battery on charge. The charger brings the battery up to full charge on a taper curve and automatically reduces the charge rate to a small rate sufficient to maintain the battery until it is needed.

The attendant checks electrolyte level, adds water when required and checks the specific gravity at the end of charge to make sure the charger and the battery are functioning properly. ●

(Resume Reading on Page 51)

Circle No. 10 on Card, Facing Page 57, for more information



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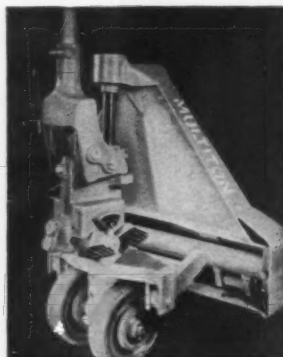
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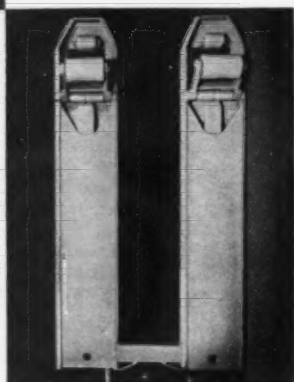


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## Towboat Christened



Christened the Albert F. Holden, this new 3200-hp towboat was built for Island Creek Fuel and Transportation Co., Huntington, Va. It will follow the Ohio River coal trade route between Cincinnati and Pittsburgh. It is the seventh boat of its type built by Dravo Corp. to enter service

## DM—new title

(Continued from Page 54)

ready in existence, but probably in small isolated units reporting to various sections within the company. These small isolated organizational units should be pulled together gradually until all functions relating to distribution are under one department.

The distribution organization should be on the same reporting level as any other manufacturing line or staff organizations. It should encompass all functions that have a distinct relationship to physical distribution such as: traffic, transportation, warehousing, shipping.

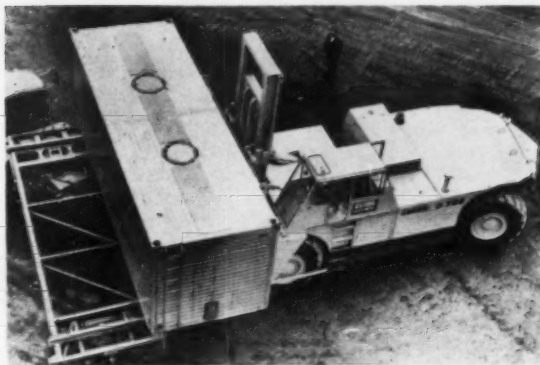
The distribution organization should have its own staff. It should consist of engineers who are skilled in one or more of the following: Establishing work standards with incentive pay, layouts, materials handling, inventory control, production control, and quality control. The distribution organization will undoubtedly have other operational but not functional responsibility for certain areas of activity that are the concern of other divisions in the company.

We have developed the idea that the distribution manager is a professional man—not a technician or specialist. As such he is responsible for the broad range of managerial services. For those of you in a position to do so—develop yourselves and your subordinates accordingly. Make the utmost use of talents and skills available and you will soon find that you have a professional distribution manager. ●

(Resume Reading on Page 55)



## Fork Lift for 35 Tons



The wide open spaces are perfect for this 35-ton capacity fork-lift truck. A loaded shipping container is shown being placed accurately on trailer with the fork lift's help. In spite of its size, Clark Equipment Co. claims that its new truck handles easily with power steering, power shift transmission, and four-wheel drive

## Private 3000-Mile Phone System



A 3000-mile telephone system was installed for Gateway Transportation Co. recently. The La Crosse, Wisc., company uses the system to allow instant contact with all offices in its 10-state area. This is the control room of the system with dispatchers, board, and equipment markers. According to the American Telephone and Telegraph Co., this is the first installation of its kind in the Midwest and second in the U. S. Each terminal has a board with plastic indicators for each piece of equipment

## Washington DA...

(Continued from Page 17)

**CONGRESS BACK AT WORK**—The "rump" session of Congress has a host of proposals pending of importance to the transportation industry. If past patterns hold, there'll be little or no action on most of them from the eager-to-campaign lawmakers. Among the measures pending in Congress and likely to pass are: Minimum wage boost and expansion, probably retaining the trucking exemption from overtime; a Senate-passed measure enlarging and broadening coverage of the explosives transportation act; and a bill requiring railroads to file accident reports with the ICC.

**REGULATORY REFORM PRESSED**—Sentiment for sweeping reforms and modifications of the present federal regulatory agency system of growing in Congress. The movement is an outgrowth of the past couple of years of influence-peddling probes by the lawmakers. The ICC has remained out of the fire of the probers so far. But changes would affect it. First major action will probably be laws setting stiff fines and jail sentences for "off-the-record" attempts to influence decisions. Later, basic changes in the methods and powers of these agencies are possible. The trend will be accelerated by this year's election contests.

**ICC PROBES MOUNT**—The ICC will soon be undergoing three investigations. The most recently added is a probe of organization and procedures by the General Accounting Office. This investigation was ordered by Senate Commerce Committee Chairman Warren Magnuson, D., Wash., as background for a study next year of the organization, efficiency, and procedures of all regulatory agencies. Earlier, the ICC set up a team to investigate itself, and the U. S. Budget Bureau hired a private consulting firm.

**COLD STORAGE CAPACITY BOOST**—Nation's refrigerated warehouse industry has a capacity of 942 million gross cu ft, an increase of 41 million since 1957. U. S. Agriculture Department survey taken last Oct. 1, reports 482 million cu ft capable of holding temperatures from 0 deg F to 50 deg and 460 million cu ft holding below 0 deg. Two thirds of the capacity added in the two-year span was in the below 0 deg range. Capacity declined in the Western central regions, but was more than offset by gains particularly in the Pacific, East Central, and Atlantic areas.

**TIGHTEN EXPLOSIVES CONTROL**—Congress may put the finishing touches on a measure tightening federal control over private shipments of dangerous articles before going home. The move was touched off by tragic dynamite truck explosion last year at Roseburg, Ore. The bill has passed the Senate and is awaiting rump-session action by the House. Principal effect would make privately-owned trucks subject to most of the rules for such shipments now governing common carriers.

**TRUCK DAMAGE DIPS**—Revised statistics from the ATA show loss and damage claims in 1959 were down to 1.059 per cent from 1.14 per cent in 1958. (Earlier estimates placed the figure at 1.16 per cent for 1959.) Increased shipments of hard goods and raw materials were reflected in a slight increase in percentage of claims paid in these categories. A slight increase of 38.8 per cent was also recorded in claims due to damage from improper handling.

(Resume Reading on Page 20)

# within the Law

By Leo T. Parker  
Legal Consultant,  
Distribution Age



## WAREHOUSING

What is the difference between a negotiable and a non-negotiable warehouse receipt?

A review of recent leading higher court decisions discloses that the courts recognize only two forms of warehouse receipts namely, negotiable and non-negotiable. These receipts differ chiefly as to the manner in which the right of possession of the stored commodities or merchandise may pass from one party to another and in the manner in which the deliveries of stored merchandise can be effected lawfully by the warehouseman.

A warehouse receipt in which it is stated that the merchandise referred to thereon will be delivered to the depositor or to any other specified person or company, is a non-negotiable warehouse receipt.

In other words, it is one for which the warehouseman may deliver the stored goods to the owner without presentation of the receipt, or to anyone who presents the receipt, or to any person, firm or corporation named in the receipt, or specified by the owner of the goods.

Recently a higher court went so far as to hold that a warehouseman can without any future liability deliver to the owner, or his authorized agent, stored goods without demanding or receiving the non-negotiable warehouse receipt.

In this case the testimony showed that the owner stored 90 sacks of potatoes. He told the warehouseman that he had lost the non-negotiable warehouse receipt. Without any argument the warehouseman delivered the goods to W—. Nine months later a man named P— came into the warehouse and presented a warehouse receipt representing the 90 sacks of potatoes. P— claimed that he represented W— and also that he had paid money to W— to obtain ownership of the potatoes which he expected to peddle to his friends in the evenings.

In subsequent litigation, the higher court held the warehouseman is not liable to either W— or P—. This

higher court explained that since the non-negotiable warehouse receipt contained all information and notations required by law, the warehouseman had fulfilled his legal obligations when he delivered the potatoes to W—.

In another higher court decision the testimony showed that the holder, named K—, of a non-negotiable warehouse receipt, lost it. He went to the warehouseman who remembered that K— had stored the goods. The warehouseman let him take possession of the goods. Six months later a man named P— came into the warehouse and presented the warehouse receipt originally given by the warehouseman to K—.

In later suit, the higher court held that P— had no financial interest or rights in the warehouse receipt although he testified that he had paid K— \$829.69 for it.

This higher court explained that a non-negotiable receipt is not negotiable, and that this statement of law settles all similar legal controversies.

Modern higher courts consistently hold that a negotiable warehouse receipt is to be passed by endorsement in practically the same manner as any other negotiable instrument. The

right of possession of stored merchandise follows the ownership and possession of a negotiable warehouse receipt.

Contrary to laws relating to non-negotiable warehouse receipts delivery of stored merchandise, on which a negotiable receipt has been issued, cannot be made without the surrender to the warehouseman of the negotiable warehouse receipt properly endorsed by the original holder. A negotiable warehouse receipt has certain distinct advantages which do not relate to a non-negotiable warehouse receipt.

The law is settled that if a warehouseman delivers stored merchandise to any person, except the one who holds a negotiable warehouse receipt, the warehouseman positively is liable to the present holder of the receipt for the full value of the originally stored goods.

The courts hold that if a negotiable warehouse receipt provides for the delivery of the commodities to "bearer," the negotiable warehouse receipt may be negotiated without endorsement and by simple delivery. But if the delivery of the merchandise referred to thereon is to be made to the order of a specified person or company, the specified person or company must endorse the negotiable warehouse receipt before it can be negotiated.

Hence, if a warehouseman delivers stored merchandise to one who does not endorse the receipt to his "order," the warehouseman is liable for the value of the merchandise to a person who later presents the warehouse receipt. This is so because if a negotiable warehouse receipt is made to the order of a specified person or company, requiring endorsement for negotiation, and the warehouse receipt is delivered for value without endorsement the person who receives delivery of the stored goods has no legal interest, right or ownership in such merchandise.

Therefore in such a case the transferee acquires a right against the transferor to compel him to endorse the negotiable warehouse receipt. See N— U— B— v. S—, 74 Atl. 351.

A review of higher court decisions

## Ferry Between Warehouses



To speed delivery to central warehouse points, Audio Devices of Connecticut, uses a tractor trailer. It delivers Audio products, and the material used to make them rides home "free" on the return trip. Tapes are handled twice in transit. The tractor trailer can hold 84 million feet of tape

discloses this new law, as follows: If a negotiable warehouse receipt is lost or destroyed the holder can file suit and a court can order the delivery of the goods to him upon satisfactory proof of such loss or destruction after he gives a bond to protect the warehouseman from any liability or expense which may incur by reason of the original receipt remaining outstanding.

In this respect a late higher court said:

"Before any person claiming to be the owner of property stored with a public warehouseman, which property is covered by negotiable warehouse receipts which are lost, can be in position to recover such property or hold the warehouseman for nondelivery or for conversion he must first place himself in the position of being entitled to delivery of the property." See S—, 52 Iowa 701.

An important distinction between negotiable and non-negotiable warehouse receipts is this: A warehouseman can issue several non-negotiable warehouse receipts for the same lot of stored merchandise and no liability will result if he can prove that the holder of the receipts deposited for storage only one lot of merchandise. On the other hand, if a warehouseman issues more than one negotiable warehouse receipt he must stamp in bold letters the word "duplicate" on the face of one of the receipts. Otherwise he will be held liable to the holder of the duplicate receipt for full value of the merchandise described therein.

### Can a jury compromise a damage suit or average its allowable and awarded damages?

No. A few weeks ago a higher court decided that a jury cannot compromise a damage suit or average its allowable and awarded damages.

For illustration, in N— v. G— L— W— Corp., 261 Fed. Rep. (2d) 35, the testimony showed facts, as follows: The G— L— W— Corp. operated a general storage warehouse as a public warehouseman. The warehouse company issued its warehouse receipts to the M— C— Co. for 480 cases of Kool-Aid stored in its warehouse and owned by the latter. While the Kool-Aid was in the warehouse it was damaged by fire. Following the fire, the M— C— Co. submitted a proof of loss to its insurance company, the N— F— I— Co. for \$8806, the value of the 480 cases of Kool-Aid. The insurance company paid the full amount of the loss claimed to the cheese company and received \$2300 in salvage from the sale of damaged Kool-Aid, making its net loss \$6506. Then the insurance co. filed suit against the G— L— W— Corp. to recover the sum of \$6506.

The jury carefully considered all of the testimony and finally decided that the fire loss resulted from negligence of the G— L— W— Corp. Instead of holding the warehouse company liable to the insurance company for the full amount of the financial loss of \$6506 the jury allowed the insurance company only \$3252. From later testimony it was disclosed that certain members of the jury decided that the fire loss resulted from negligence of employees of the G— L— W— Corp., but other members of the jury believed otherwise. Therefore, a compromise amount was arrived at by all members of the jury of one-half \$6506, the actual damages sustained by the cheese company and paid out by the insurance company.

The higher court reversed the jury's verdict. It said that if the jury decided that the fire was caused by negligence of the warehouse then, the jury should have awarded the insurance company full damages.

On the other hand, if the jury believed the fire did not result from negligence, a verdict should have been rendered holding the warehouse not liable for any amount.

## TRANSPORTATION

### Can presumption or circumstantial evidence convict a person receiving stolen merchandise?

Yes. According to a recent higher court decision a person may be convicted of receiving stolen merchandise by presumption or pure circumstantial evidence.

In U— S— v. S—, 255 Fed. (2d) 768, it was shown that several valuable chain saws were stolen from a trailer. The testimony proved that a man, named S—, knew that the saws were worth \$135 each. After some negotiating, S— purchased the three

saws for \$100. S— proved that he did not know that the saws had been stolen from the truck. Nevertheless, the higher court convicted him of receiving stolen goods.

The Court said, "The sole question is whether the evidence sustained the finding that S— knew the chain saws had been stolen. Such knowledge may be inferred from circumstances that would convince a man of ordinary intelligence that such was the fact. Although S— protested that he did not know the saws had been stolen, he purchased same from C for about one-third of their value."

### Is the operator of a large motor truck expected to stop quickly in case of an accident?

No. Recently a higher court held that the operator of a large motor truck cannot be expected to stop quickly. Hence drivers of passenger automobiles must constantly keep this hazard in mind.

For example, there is the case of H— v. C— T— Co., 329 Pac. (2d) 609. It was shown that a truck with a minimum length of 50 ft and weight of 32½ tons was traveling at a speed of between 40 and 45 mph when it collided with a car. The car was parked partly on the highway at night. Its driver was killed.

In subsequent litigation, the higher court refused to hold the trucking company liable.

The court said: "It is common knowledge that equipment of this size and weight (32½ tons) traveling at a speed of between 40 and 45 miles per hour, may not within a matter of a second or two be brought to a stop or be swerved to the right or left without grave danger of 'jackknifing' or overturning. The fact that defendant (driver) had the space within which to pass around the decedent's automobile is of no significance unless the defendant had time within which to do so after he first saw the decedent's automobile."

### Who is liable if a motor truck is wrecked because of the negligence of a city employee?

Considerable discussion has arisen over the question: Who is liable if a truck is wrecked because of the negligence of a city employee?

Recently a higher court rendered an unusual decision. It said that if a city employee removes a stop sign, the city is liable for injuries resulting from a collision.

For example, in I— v. City of P—, 273 P. (2d) 539, it was shown that a city's employee removed a stop sign to repair it. I— was seriously injured in a crash, his car colliding with another car driven by one P—.

In litigation, the higher court held the city liable.

(Please Turn to Page 103)

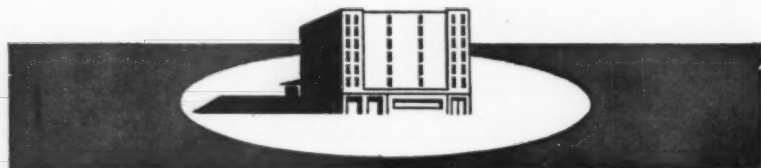
### HHG Packing Material Move



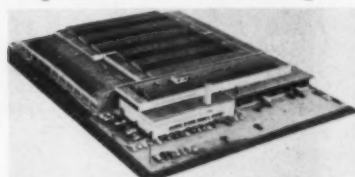
O'Rourke Storage and Transfer Co. now uses three International Metro-Mites to carry packing materials and collapsible paperboard containers to moving sites. Two-man teams working from the trucks pack all items to be moved prior to arrival of the O'Rourke over-the-road rig. Each Mite holds 500 lb of containers



# Warehouse SPOTLIGHT



## Spokane Warehouse Bought



Largest single-story warehouse in Spokane, Wash., is now owned by the Seattle Transfer and Storage Co. That company plans to add 150,000 sq ft to the concrete structure. Facilities include multiple rail car unloading spots and truck loading and unloading on three sides of the warehouse.

## Warehousemen Organizing Toledo, Ohio, Association

The first step was taken recently in the move to form The Toledo Warehousemen's Association.

Temporary officers were appointed to prepare by-laws. They also will submit a non-profit charter to the prospective membership.

The temporary president is D. H. Overmyer, president, D. H. Overmyer Warehouse Co. Willis Day, president of Willis Day Storage Co., is vice president, and Al M. Lownsbury, vice president-sales, Edgar's Warehouse, Inc., secretary. Louis M. Ashenbrenner, president and manager of Great Lakes Terminal Warehouse Co., is treasurer.

—DA—

## Goines to Head CMSA

At the recent Annual Convention of the California Moving and Storage Association, William F. Goines, Jr., was elected president. He is the San Francisco manager of Belkins Van and Storage Co.

—DA—

## Dallas Movers Elect Officers

At a recent meeting of the Dallas Movers' Club, 21 charter members elected Frank Zalkovsky their president. Other officers are Ray St. John, vice president; B. R. Owen, treasurer; and Chester Bradley, Jr., and Maynard Hammel, both directors of the club.

## Affiliated Members Meet

At its Annual Meeting, members of the Affiliated Warehouse Companies, Inc., and Affiliated Cold Storage Companies, Inc., heard Dr. Charles Irwin of General Motors speak. An afternoon panel concerned the likes and dislikes of public merchandise warehouse operations.

—DA—

## Mo. Warehousemen to Meet

Members of the Missouri Warehousemen's Association, Inc., will hold their Fall Meeting at the Kentwood Arms, Springfield, Mo., September 16-18.

## Custom-Built Trailer



This big custom-built tractor trailer is cutting costs for Beaver Van Lines, Inc., Atlas Chicago agent. Interior of the van has cargo fastening system with built-in vertical tracks. Driver shows placement of holding rings. They lock into track and are used for tying-off cargo with rope or straps. There's a skylight in the roof, too.

—DA—

## Koehler Heads N. J. Movers

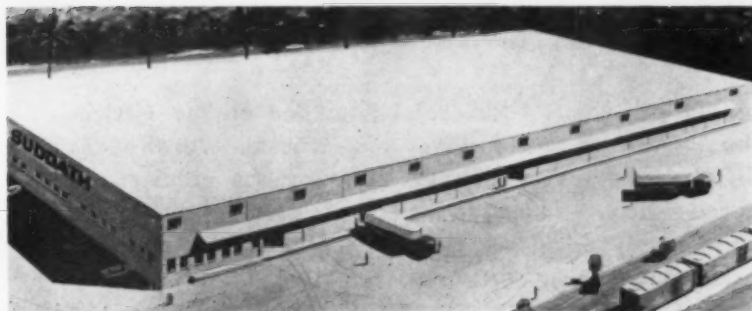
Fred Koehler was re-elected as president of the Movers Conference of New Jersey. It is the third-year term for the general manager of Lincoln Storage Warehouses, East Orange. Elected on the same slate were Griswold Holman, George B. Holman and Son, Rutherford, vice president and John J. Regan, Regan Brothers, secretary.

—DA—

Loaded household goods furniture vans are being piggy-backed between Wilmington, Del., and Jacksonville, Fla., over Atlantic Coast Line's track.



## New HHG Warehouse for Jacksonville, Fla.



Now in full operation is Suddath Moving and Storage Co.'s new general headquarters and warehouse in Jacksonville, Fla. Built at a cost of \$250,000, the warehouse was designed for the container method of storing and moving household goods. It is of steel and concrete. The whole 10-city Suddath organization is geared to containerization. The company's offices occupy 4000 sq ft of the 40,000 sq ft building

## Warehouse Briefs

Germantown Fireproof Storage Co., Philadelphia, has installed a 100,000-lb capacity scale for tractor-trailer combinations up to 50 ft.

Elaborate sales-stimulating road shows planned by the Ford Motor Co. are being moved on tour by Corrigan Moving and Storage Co., Dearborn, Mich., and Bradley Moving and Storage Co., Birmingham, Mich.

Global Van Lines has appointed 35 new agents. They are: Abbot Moving and Storage, Wichita Falls, Texas; ABC Van Co., Lawton, Okla.; Able Moving and Storage, Tampa, Fla.; Ackley's, Vineland, N. J.; Advance Storage and Transfer, Miami, Fla.; Aetna Transfer and Storage, Gulfport, Miss.; Atlantic Storage Co., Brooklyn, N. Y.; Anderson Moving and Storage, Orlando, Fla.; Beach Moving and Storage Co., Santa Monica, Calif.; Clark Moving and Storage, Big Springs, Texas; Cornett Moving and Storage Co., Gulfport, Miss.; Fort Smith Sales Co., Fort Smith, Ark.; General Van and Storage, Covington, Ky.; Global Moving and Storage, Hyattsville, Md.; Global Moving and Storage, Medford, Ore.; Highway Transportation Co., St. James, Mo.; I-Go Van and Storage, Bakersfield, Calif.; Joy Van and Storage, Lincoln, Neb.; Lampert Van and Storage, Bordentown, N. J.; Charles W. Lightcap and Sons, Philadelphia, Pa.; Lindstrom's Trucking Service, Sycamore, Ill.; Love Brothers, Detroit, Mich.; Modern Movers, Charlotte, N. C.; Ohio Public Warehouse Co., Steubenville, Ohio; Olson Transportation Co., Springfield, Mass.; Overland Park Moving and Storage, Shawnee, Kan.; Prescott Transfer and Storage, Columbia, S. C.; Reynolds Transfer and Storage Co., Inc., Madison, Wis.; Ridgecrest Moving and Storage, Ridgecrest, Calif.; Ross Van and Storage Co., Rolla, Mo.; Sullivan's Mov-

ing and Storage Co., Toledo, Ohio; T and R Transfer and Storage, Shreveport, La.; Tilton Van and Storage Co., Salina, Kan.; The Trading Post, Macon, Ga.; Wichita Transfer and Storage, Wichita, Kan.

Household goods from ten rooms recently arrived in New York in 36 hours from Paris. The furniture was brought to New York by Seaboard and Western Airlines, Inc.

Plan Hold Corp. has increased its warehousing capacity by doubling space at its California plant and adding a new warehouse in Aurora, Ill.

The Equitable Life Assurance Society of the United States will be moved 22 blocks soon. Weissberger Moving and Storage Co., Inc., is the mover. The move involves desks and equipment for 7500 people and 1800 van loads will be transported over a period of six weekends.

The ICC has approved the purchase of a portion of the rights belonging to Austgen Express and Storage Co., Milwaukee, to Hoover Motor Express Co., Inc.

New agency appointments were recently finalized by Aero Mayflower Transit Co., Inc. They include Erickson Moving Service, Escanada, Mich.; Chevalley Moving and Storage, Inc., Altus, Okla.; and Tillamook Transfer Co., Inc., Tillamook, Ore. Drivers recognized for more than 10 years of accident-free service are Edward C. Talbert, Kenneth L. Kerr, Meridian, Miss.; Franklin E. Dean, New Point, Ind.; Claude M. Brokaw, Lawrence, Ind.; Wayne Pullium, Joplin, Mo.; Gerald Hanson, Indianapolis, Ind.; and Eugene A. Blunk, Mooresville, Ind.

Figures released by Aero Mayflower Transit Co., Inc., show more families moving into the 10 western states than are moving out—but the 1959 margin is narrower than 1958.

## New Plant for Protection Service



New manufacturing building for American District Telegraph Co., being erected on 10-acre plot in Clifton, N. J., will provide 100,000 sq ft for production of fire and burglar alarm systems. New building will include warehouse facilities

## Men in the Spotlight

Marc Stuart—elected executive vice president, Louisville Public Warehouse Co., Louisville, Ky.; William A. Stone—vice president-treasurer.

Gary R. Silcox—appointed comptroller and assistant treasurer, D. H. Overmyer Warehouse Co., Toledo, Ohio.

George Batina—elected a vice president, North American Van Lines, Inc. He is president of Beltmann North American Co., Inc., St. Paul and Minneapolis; Harold S. Bechert—vice president-sales; Delbert J. Lambert—manager-New Products Division; Charles H. Vasseur—Miami sales manager.

John E. Venn—new vice president, director, and general manager, Springfield Warehouse and Transfer Co., Inc., Springfield, Mo.



Fred A. Link—new vice president, Wheaton Van Lines, Inc., Indianapolis, Ind.

C. A. Martin, Jr.—named chairman, National Association of Refrigerated Warehouses' Promotion and Public Relations Committee.

Col. Rohland A. Lisker—elected to Board of Governors, Refrigeration Research Foundation; Harold W. Schultz—named president-elect of the Institute of Food Technologists.

Joseph C. Rutzky—named vice president-director of sales, C and A Terminal Co., Chicago.

# Warehouse Directory

Listed below are approximately 300 public warehouses whose services are advertised in this issue of DISTRIBUTION AGE. The listing is alphabetical by city and state. Included are general merchandise warehouses, refrigerated warehouses, and household goods warehouses. Also listed are a number of national warehouse sales organizations.

Additional information on the services and facilities of particular warehouses shown in the listing can be obtained by turning to the advertisements on the following pages. Generally the advertisements appear in the same geographical, alphabetical sequence as the listings below. Still more information can be had by writing directly to the warehouse.

**ALABAMA**  
Birmingham  
Doc's Tfr. & Warehouse, Inc.  
Harris Warehouse Co.  
Strickland Tfr. & Whse. Co.

**ARIZONA**  
Phoenix  
B-Z-Bee Transp'n & Whse. Co.  
Lightning Mvg. & Whse.

**ARKANSAS**  
Little Rock  
Terminal Warehouse Co.

**CALIFORNIA**  
Los Angeles  
Bekins Warehousing Corp.  
California Cartage Warehouse  
Central Term. Whse. Co.  
Davies Warehouse Co.  
Overland Term. Warehouse Co.  
Pacific Coast Term. Whse. Co.  
Pacific Commercial Whse., Inc.  
Star Truck & Whse. Co.  
Union Terminal Warehouse

**San Francisco**  
San Francisco Whse. Co.

**COLORADO**  
Colorado Springs  
Welcker Tfr. & Stge. Co.

**Denver**  
Alpine State Warehouse  
Larsen Tfr. & Stge. Co.  
North Denver Tfr. & Stge.  
Welcker Tfr. & Stge. Co.

**Pueblo**  
Welcker Tfr. & Stge. Co.

**CONNECTICUT**  
Bridgeport  
William B. Meyer, Inc.

**Hartford**  
George E. Dewey & Co.  
Hartford Despatch & Whse. Co., Inc.

**DELAWARE**  
Dover  
Delmarva Whses., Inc.

**DISTRICT OF COLUMBIA**  
Washington  
Davidson Tfr. & Storage Co.  
Kane Warehouse Company  
Terminal Stge. Co. of Wash.

**FLORIDA**  
Jacksonville  
Jacksonville Warehouse Co.  
Laney & Duke Stge. Whse Co., Inc.  
M & M Term'l. Whse. Company  
Peninsular Whse. Company  
Union Terminal Whse. Co.

**Miami**  
Colonial Warehouse, Inc.  
International Bonded Whse. Corp.  
Miami International Whse. Co.  
Santini Bros., Inc.

**Tampa**  
Caldwell-Neal

**GEORGIA**  
Atlanta  
American Bonded Whse.  
Savannah  
Savannah Bonded Whse. & Tfr. Co.

**HAWAII**  
Honolulu  
H C & D Mvg. & Stge.

**ILLINOIS**  
Cairo  
Hudson Warehouses

**Chicago**  
Ace Warehousing Service  
Affiliated Whse. Companies  
American Chain of Whses., Inc.  
Anchor Storage Co.  
Associated Warehouses, Inc.  
Crooks Terminal Whses., Inc.  
Currier-Lee Whses, Inc.  
Equipment Storage Corp.  
Griswold & Bateman Whse. Co.  
Grove Storage Co., Inc.  
Joyce Bros. Stge. & Van Co.  
Majestic Whses., Inc.  
Midland Warehouses Inc.  
North Pier Terminal  
Packers Term'l. & Whse. Corp.  
Producers Warehouse Co.  
Riverside Warehouse  
Soo Terminal Whse.  
Sykes Terminal Whse. Co.  
Thomson Terminals, Inc.  
Wakem & McLaughlin, Inc.  
Western Warehousing Co.

**Chicago Heights**  
United Warehousing Co.

**East St. Louis**  
McMahon Transfer & Whse. Co.  
Mid-American Trml. Whse., Inc.  
C. J. Nooney & Co.

**Joliet**  
Joliet Whse. & Tfr. Co.

**Kankakee**  
Belt Route Whse. Stge. Co.

**Vandalia**  
Vandalia Whse. Corp.

**INDIANA**  
Elkhart  
Schult General Warehouse

**Evansville**  
Ingle Street Warehouse Co.  
Mead Johnson Terminal Corp.  
Producer's, Inc.  
Terminal Warehouse, Inc.

**Fort Wayne**  
Edgar's Warehouses  
Fort Wayne Storage Co., Inc.  
Pettit Whses., Inc.

**Hammond**  
Great Lakes Whse. Corp.  
Illiana Storage Co., Inc.  
Nowak Warehouses, Inc.

**Indianapolis**  
Indiana Term'l. & Refrig. Co.  
Indianapolis Whse. & Stge. Co., Inc.  
Merchandise Whse. Co., Inc.  
Strohm Whse. & Cartage Co.

**Jeffersonville**  
Jeffersonville Div. of Louisville  
Public Whse. Co.

**Muncie**  
Oren-Shively Whses.

**IOWA**  
Cedar Rapids  
American Tfr. & Stge. Co.  
Cedar Rapids Tfr. & Stge. Co.

**Davenport**  
Roederer Transfer & Storage Co.

**Dubuque**  
Dubuque Stge. & Tfr. Co.

**KANSAS**  
Hutchinson  
Hutchinson Merchandise Whse., Inc.

**Kansas City**  
G-K Warehouses, Inc.

**KENTUCKY**  
Louisville  
Louisville Public Whse. Co.

**Winchester**  
Winn Avenue Whses., Inc.

**LOUISIANA**  
New Orleans  
H. G. Bauer Mvg. & Stge.  
Commercial Term'l Whse., Inc.  
Gulf Shipside Storage Corp.  
Hayes Drayage & Storage, Inc.  
Maloney Tlking. & Storage, Inc.  
Standard Warehouse Co., Inc.

**MARYLAND**  
Baltimore  
Camden Warehouses  
Davidson Transfer & Stge. Co.  
Rowley Whsing. & Distributing, Inc.  
Western Maryland Whse. Co.

**MASSACHUSETTS**  
Boston  
Charles River Stores operated by Merchants Whse. Co.  
Commodity Warehouse Corp.  
Hoosac Storage & Whse. Co.  
National Dock & Stge. Whse. Co.  
Standard Storage Co.  
Wiggin Terminals, Inc.

**Lowell**  
Curran-Morton of Lowell, Inc.

**Springfield**  
Pioneer Valley Refrig. Whse., Inc.

**MICHIGAN**  
Detroit  
Central Detroit Whse. Co.  
Detroit Harbor Term'l's, Inc.  
Edgar's Warehouses  
Fleetwing Terminal Corp.  
Grand Trunk Whse. & C. S. Co.  
John F. Ivory Storage Co., Inc.  
Jefferson Terminal Whse.  
Lakeshore Warehouse Inc.  
United States Cold Stge. Corp.

**MINNESOTA**  
Minneapolis  
Minneapolis Terminal Whse. Co.  
Murphy Warehouse Co.  
Security Warehouse Co.

**St. Paul**  
Central Warehouse Co.  
Midway Term'l Whse. Co.

Murphy Warehouse Co.  
St. Paul Term'l Whse. Co.

**MISSOURI**  
Kansas City  
Adams Tfr. & Storage Co.  
Belger Warehouse Co.  
Central Storage Co.  
Crooks Terminal Whses., Inc.  
Fairfax Storage Co.  
G-K Whses., Inc.  
Jacobs Warehouse Co., Inc.  
Kansas City Term'l. Whse. Co.  
Midwest Terminal Whse. Co.

**St. Louis**  
Keystone Warehousing Co.  
S. N. Long Warehouse  
Madison St. Term'l. Whse. Corp.  
Rutger St. Whse., Inc.  
St. Louis Terminal Whse. Co.  
Warehousing Corp. of Mo., Inc.

**Springfield**  
General Warehouse Corp.

**NEBRASKA**  
Lincoln  
Sullivan Tfr. & Stge. Co.

**Omaha**  
Ford Stge. & Mvg. Co.  
Gordon Stge. Whses., Inc.  
Omaha Central Whse. Co.

**NEVADA**  
Elko  
Nevada Freeport Storage Co.

**NEW HAMPSHIRE**  
Manchester  
McLane & Taylor Corp.

**NEW JERSEY**  
Bayonne  
Lehigh Tank Terminal  
Wheeling Transportation, Inc.

**Camden**  
Camden Marine Terminals  
Evenson & Levering Div. of Mack Whse. Corp.

**Elizabeth**  
Wheeling Transportation, Inc.

**Hillside**  
Wheeling Transportation, Inc.

**Jersey City**  
Lackawanna Whse. Co., Inc.

**Newark**  
Federal Stge. Whses.  
Lehigh Whse. & Trans. Co.

**Paterson**  
Commercial Warehouses

**Port Newark**  
Wheeling Transportation, Inc.

**Trenton**  
Anchor Warehouse Co.  
Delaware Valley Whse. Co.

**NEW YORK**  
Brooklyn  
Dock Whsing. & Bottling Center, Inc.  
Empire State Whses. Co.

**Buffalo**  
American Household Stge. Co.  
Buffalo Merchandise Whses., Inc.  
Keystone Warehouse Co.  
Knowlton Warehouse, Inc.  
Laub Warehouse  
Lederer Terminals  
Wilson Warehouse, Inc.  
**Deer Park, L. I.**  
Pinter Warehouse, Inc.  
**Horseheads**  
Lehigh-Horseheads Whse. Corp.  
**New York City**  
Affiliated Whse. Companies  
American Chain of Whses., Inc.  
Bowling Green Stge. & Van Co.  
Chelsea Fireproof Stge. Whses.  
Santini Brothers, Inc.  
**Rochester**  
Geo. M. Clancy Carting Co., Inc.  
**Syracuse**  
Great Northern Whses., Inc.  
King Storage Whse., Inc.  
Paul-Jeffrey Company  
Syracuse Furniture Fwdg. Co., Inc.  
**White Plains**  
J. H. Evans & Sons, Inc.  
**NORTH CAROLINA**  
**Charlotte**  
American Stge. & Whse. Co., Inc.  
Dixie Cartage & Whsing. Co.  
**Raleigh**  
Carolina Stge. & Dist. Co.  
Raleigh Bonded Whse., Inc.  
**NORTH DAKOTA**  
**Fargo**  
Union Storage & Tfr. Co.  
**OHIO**  
**Akron**  
Cotter Merchandise Stge. Co.  
**Cincinnati**  
Cincinnati Term. Whses., Inc.  
**Cleveland**  
Assembly Distribution Service, Inc.  
Lederer Terminals  
National Terminals Corp.  
Neal-Caldwell  
**Columbus**  
Central Ohio Warehouse Co.  
Columbus Term. Whse. Co.  
Merchandise Whse. Co.  
Ohio Warehouses, Inc.  
**Dayton**  
Dayton Warehouses, Inc.  
Union Storage Co.  
**Toledo**  
Edgar's Warehouses  
Great Lakes Term. Whse. Co.  
Merchants & Mfrs. Whse. Co.  
Toledo Terminal Whse., Inc.  
**Youngstown**  
Lederer Terminals  
**OKLAHOMA**  
**Oklahoma City**  
O. K. Tfr. & Stge. Co.  
Public Warehouse Co., Inc.  
**Tulsa**  
General Warehouse Corp.  
**OREGON**  
**Portland**  
Holman Transfer Co.  
Oregon Transfer Co.  
Rapid Transfer & Stge. Co.  
Rudie Wilhelm Whse. Co.  
**PENNSYLVANIA**  
**Allentown**  
Hummel Warehouse Co., Inc.  
**Butler**  
Nicholas Tfr. & Stge. Co.  
**Erie**  
Erie Storage & Carting Co.  
Erie Warehouse Co.  
M. V. Irwin Moving & Stge., Inc.  
**Harrisburg**  
Harrisburg Storage Co.  
Harrisburg Warehouse Div.,  
Western Whsing. Co.  
Pennsylvania Comm. Whse. Co.  
**Lancaster**  
Lancaster Storage Co.  
**Philadelphia**  
Commercial Warehousing Co.  
Merchants Whse. Co.  
Pennsylvania Whsing. & Safe Deposit Co.  
Terminal Warehouse Co.  
**Pittsburgh**  
Beacon Warehouse, Inc.  
White Terminal Co.  
**Scranton**  
Mifflin Warehouse Co.  
Quackenbush Warehouse Co.  
**RHODE ISLAND**  
**Newport**  
Manuel Brothers, Inc.  
**SOUTH CAROLINA**  
**Charleston**  
Berkeley Storage Co.  
Charleston Whse. & Fwdg. Corp.  
**Columbia**  
Carolina Bonded Stge. Co.  
**Greenville**  
Beattie Bonded Whse. Co.  
**TENNESSEE**  
**Chattanooga**  
Chattanooga Whse. & C.S. Co.  
**Memphis**  
Interstate Storage Co.  
Mayer Whse. & Term. Co.  
Midwest Terminal Whse. Co.  
Poston Warehouses, Inc.  
Valden Warehouse  
**Nashville**  
Bond, Chadwell Co.  
Central Van & Stge. Co.  
**TEXAS**  
**Dallas**  
Great Southwest Whses., Inc.  
Mayflower Warehouses (American Transfer & Stge. Co.)  
**El Paso**  
El Paso Term. Whses., Inc.  
Western Warehouses  
**Fort Worth**  
Binyon O'Keefe Stge. Co.  
**Houston**  
American Warehouses, Inc.  
**Houston Central Whse. & C.S. Co.**  
**Houston Term. Whse. & C.S. Co.**  
**Houston Warehouse Service, Inc.**  
T.P.C. Stge. & Tfr. Co., Inc.  
Texas Service Whse. Co.  
Union Transfer & Stge. Co.  
Universal Term. Whse. Co.  
Wald Term. Whse. Co., Inc.  
**UTAH**  
**Salt Lake City**  
Noyce Transfer Co.  
Redman Van & Storage Co.  
**VIRGINIA**  
**Norfolk**  
Security Storage & Van Co.  
Southgate Term. Whse. Co.  
**WASHINGTON**  
**Seattle**  
Seattle Transfer & Stge. Co.  
Taylor-Edwards Whse. & Tfr. Co., Inc.  
**Spokane**  
Riverside Warehouses, Inc.  
Taylor-Edwards Whse. & Tfr. Co., Inc.  
**WEST VIRGINIA**  
**Huntington**  
Service Warehouse Corp.  
**WISCONSIN**  
**Green Bay**  
Leicht Tfr. & Stge. Co.  
**Madison**  
Hansen Stge. of Madison, Inc.  
**Milwaukee**  
American Warehouse Co.  
Hansen Storage Co.  
National Warehouse Corp.  
Terminal Storage Co.  
**CANADA**  
**Toronto, Ont.**  
Howell Warehouses Ltd.  
Terminal Warehouses Ltd.  
Toronto Storage Co. Ltd.  
**Montreal, Que.**  
St. Lawrence Warehouse, Inc.

## BIRMINGHAM, ALA.

### DOC'S Transfer & Warehouse, Inc.

3221 First Avenue, North  
Storage - Distribution - Local Cartage - Household Moving

Represented by  
**Affiliated Warehouse Companies**  
105 W. Madison St., 36 W. 44th Street  
Chicago 2 New York 36  
ET 3-5180 MU 2-9127



## BIRMINGHAM, ALA.

1880—Eighty Years of Service—1960

### HARRIS WAREHOUSE CO.

• 8 South 13th St., Birmingham •  
Merchandise and Household Goods  
• STORAGE • CARTAGE • DISTRIBUTION • FORWARDING  
Pool Cars Handled

Member of A.C.W.—A.W.A.—N.F.W.A. Agents for Allied Van Lines, Inc.

## BIRMINGHAM, ALA.

### STRICKLAND TRANSFER AND WAREHOUSE CO.



A Subsidiary Of  
**WADE WOOD COMPANY**  
112 South 14th St., Birmingham  
General Merchandise Storage and Distribution  
Pool Car Service a Specialty—Motor Truck Service  
Centrally Located—Free Switching from All R.R.s

## PHOENIX, ARIZ.

Phone: ALpine 8-7511. TWX-PX 329. FAX-FQP.

### B-Z-Bee Transp'n & Warehouse Co.

1146 North 19th Ave., Phoenix, Ariz.  
Merchandise & Household Goods. Warehouse Capacity 20,000 sq. ft.  
—Palletized. Pool Car Distribution—Unloaded and Delivered Same Day. 16 car siding. Our own fleet of trucks (22 units).  
Represented by A.W.I. Agents for United Van Lines



## PHOENIX, ARIZONA

### LIGHTNING MOVING & WAREHOUSE

Established 1890

Box 2033 PHOENIX Teletype Px147

Offering complete warehouse service for all types of general merchandise.

- Palletized Operation
- Pool Car Distribution
- Field Warehousing
- Free Switching
- Local Cartage Service
- Inside Truck Loading
- Private Sidings—
- 20 Car Capacity

Consign shipments via S.F.—S.P.

- Storage and Nationwide moving of household goods.

Represented by  
American Chain of Warehouses  
National Warehouse Receipts System  
Member American Warehousemen's Association



## LITTLE ROCK, ARK.

Merchandise and Household Storage

Pool Car Distribution  
AGENT, ALLIED VAN LINES

### TERMINAL WAREHOUSE CO.

Member American Warehousemen's Association  
American Chain of Warehouses

LITTLE ROCK, ARKANSAS



ARKANSAS' LARGEST WAREHOUSE

## LOS ANGELES, CAL.

Commercial Warehousing and Distribution

**BEKINS**  
Since 1891  
**WAREHOUSING CORP.**  
Subsidiary of Bekins Van & Storage Co.  
1335 SO. FIGUEROA  
W. C. Elliott, Manager



LOS ANGELES, CAL.

Phone: ANgelus 1-1121

## California Cartage Warehouse

DIVISION OF CALIFORNIA-CARTAGE COMPANY, INC.

"Southern California's Leading Common Carrier"

4366 EAST 26TH ST., VERNON, CALIF.

### GENERAL MERCHANDISE STORAGE

#### PLUS THESE EXTRAS—

- ✓ COMPLETE TRUCKING COVERAGE THROUGHOUT SOUTHERN CALIF.—OUR OWN TRUCKS
- ✓ COMPLETE HARBOR SERVICE—LOS ANGELES & LONG BEACH HARBORS
- ✓ POOL CAR DISTRIBUTION—OUR OWN PRIVATE SIDING
- ✓ AIR CONDITIONED OFFICE SPACE AVAILABLE—24 HOUR PROTECTION

LOS ANGELES, CAL.

Phone: CApital 1-2191 — Established 1921

## CENTRAL TERMINAL WAREHOUSE CO.

639 Antonia Ave., Los Angeles 31, Cal.

General Merchandise Storage  
Sprinklered, Brick Warehouse—ADT  
Daily local delivery—our own Trucks

LOS ANGELES, CAL.

Phone: MADison 9-2181

## DAVIES WAREHOUSE CO.

164 So. Central Ave. Los Angeles 12, Cal.

MDSE. STORAGE-DISTRIBUTION-CARTAGE

Reinforced Concrete and brick bldgs.—150,500 sq. ft., Completely palletized. Priv. Siding SP—14' Car Cap.—12 truck dock.

Represented by Associated Warehouse, Inc.  
Member of AWA—CalWA—CalINTA—LAWA

LOS ANGELES, CALIF.

CENTRAL • CONVENIENT • COOPERATIVE

## OVERLAND TERMINAL WAREHOUSE CO.

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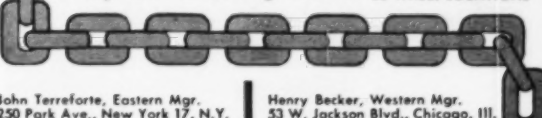
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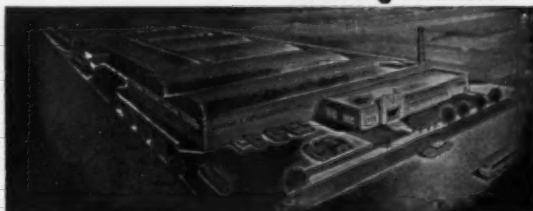
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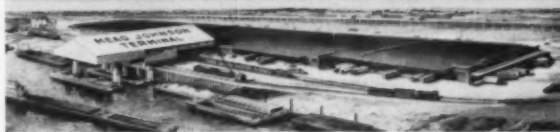
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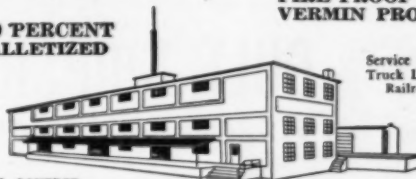
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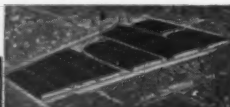
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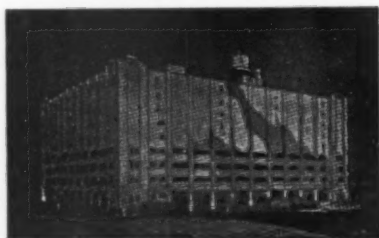
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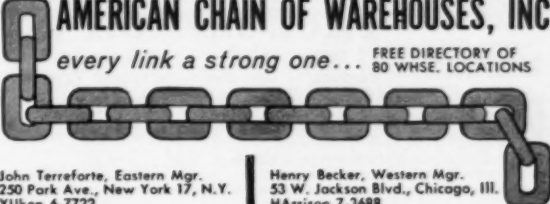



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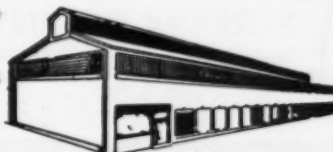
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**Within the law . . .**

(Continued from Page 75)

What is the primary purpose of the Public Service Commission and how much authority does it have?

A Public Service Commission was unknown at common law. Hence, it derives its authority wholly from constitutional or statutory provisions. It possesses only such powers as are conferred upon it. These powers may be given expressly or by necessity or fair implication. It also has incidental powers needed to carry out those granted. The courts have held that the primary purpose of regulation by the Public Service Commission must be for the ultimate good of the public.

For example, in *P— v. Public Service Commission*, 111 S. W. (2d) 982, it was shown that a common carrier which desired to extend its route applied for a certificate of convenience and necessity. The Public Service Commission investigated. It granted the certificate. A railway company objected on the grounds that it was adequately serving the same territory.

However, since the PSC had decided, according to state laws, that

the territory was not being adequately served, the higher court upheld the order.

It said, "It is contended that the order of the commission is unreasonable and unlawful. Viewing the evidence we think the action of the commission in granting the certificate was fully justified. The service



"Noticed what's said about you on the back of shipping crates?"

sought to be established is one that does not exist in the various communities located on applicant's regular route."

Recently a higher court held that it would reverse a decision of the PSC only if the rights of the parties have been prejudiced by the Commission's arbitrary action.

For example, in *B— R— T— Co., Inc. v. J— C— H—*, 313 S. W. (2d) 431, Tennessee, the testimony showed facts as follows: A legal controversy arose between two common carriers both of whom held certificates of convenience and necessity from the Public Service Commission. It seems that *G— T— Co.* held a certificate originally issued to one *B—* in about 1945, known as Certificate No. 989. By different transfers this certificate came into the hands of *G— T— Co.* The PSC decided that the certificate authorized this carrier to adopt irregular routes. The competitor contested this ruling on the grounds that the PSC had no lawful authority to interpret the certificate in this manner.

In subsequent litigation the Supreme Court held that it will give every reasonable presumption in favor of lawfulness of the PSC order and ruling. Further that the PSC interpretation of the certificate of convenience and necessity was correct and enforceable.

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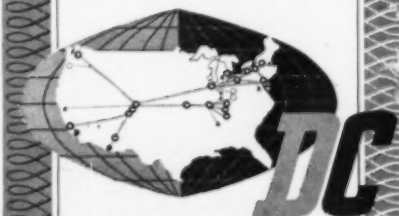
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**DENVER CHICAGO  
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## *Skilled personnel with personal interest in You*

D-C employees are dedicated to this one objective—to serve you! From the sales representative who contacts you to the driver, the dockman, the rate clerk, the supervisor and management—each has a friendly, personal and sincere interest in you and the careful handling of your shipment.

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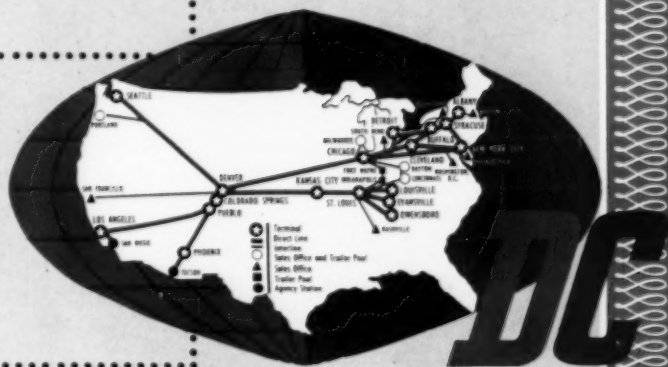
D-C's fleet numbers well over 2,000 highway units. All are kept in top-operating condition by periodic inspections and service checks. Maintenance facilities are located at key points on the system, manned by skilled mechanics. D-C road equipment is new and diversified—to serve both your routine and special shipping needs.

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Please send complete details on the Automatic UTE Remote-Control Transporter Tractor.

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